# Storm Water Treatment System Operation and Maintenance Plan- Final
# Pacific Wood Preserving of Oregon
# Sheridan, Oregon

Prepared for:

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# CITATION

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Pacific Wood Preserving of Oregon, Inc.
Prepared by: Belunes Consulting, Inc.
Scappoose, Oregon 97056

# OWNER'S CERTIFICATION

## MANAGER'S APPROVAL

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Dan Winkle

2/3/12

Dan Winkle, Plant Manager
Pacific Wood Preserving of Oregon

Date

# ENVIRONMENTAL PROFESSIONAL'S CERTIFICATION

## ENVIRONMENTAL PROFESSIONAL'S APPROVAL

The technical materials contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a registered environmental professional, is affixed below.


Expires: 10/31/2012

February 3, 2012

Terrence E. Belunes, RG, LHG — Date


Expires 12/31/2012

February 3, 012

Randy Pratt, PE — Date

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# Acronyms and Abbreviations

| | |
|---|---|
| CFR | Code of Federal Regulations |
| CuNap | Copper Naphthenate |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| CERCLIS | Comprehensive Environmental Response, Compensation and Liability Information System |
| ECSI | Environmental Cleanup Site Information |
| EHS | Environmental, Health and Safety |
| EPA | United States Environmental Protection Agency |
| GAC | Granular Activated Charcoal |
| gpm | Gallons per minute |
| NPDES | National Pollutant Discharge Elimination System |
| O&M | Operations and Maintenance |
| ODEQ | Oregon Department of Environmental Quality |
| Penta | Pentachlorophenol |
| PWPO | Pacific Wood Preserving of Oregon |
| SPCC Plan | Spill Prevention Control and Countermeasure Plan |
| SWTS | Storm Water Treatment System |
| TCLP | Toxic Characteristics Leaching Procedure |
| TSS | Total Suspended Solids |
| USGS | United States Geological Society |
| WWTS | Waste Water Treatment System |

## EXECUTIVE SUMMARY

The Pacific Wood Preserving of Oregon (PWPO) facility manufactures wood products treated with "General Use" preservatives and the "Restricted Use" preservative pentachlorophenol (Penta). The facility is the site of the former Taylor Lumber and Treating (TLT) facility, which was remediated by the United States Environmental Protection Agency (EPA) and Oregon Department of Environmental Quality (ODEQ) after contaminants associated with historic wood treatment preservatives were discovered in the soil and groundwater.

PWPO acquired the TLT site in 2002 pursuant to two prospective purchaser agreements: one between PWPO and EPA and the other between PWPO and ODEQ. The Agreements were amended in May 2011 to account for various changes at the facility, including modifications to the remedy and updated operation and maintenance requirements. Under the amended Agreements and Revised Statement of Work, PWPO agreed to certain modified terms, including an obligation to prepare a draft Storm Water Treatment System Operation and Maintenance Plan (SWTS OMP) and that within 120 days of the effective date of the Amendment, EPA and Oregon DEQ be provided an opportunity to review the draft SWTS OMP.

Construction of the Storm Water Treatment System (SWTS) was completed in 2000 prior to purchase of TLT assets by PWPO. It has been noted by PWPO and others that the SWTS's current configuration and components vary from the original design. Therefore, in preparing the SWTS OMP, a field survey of the SWTS components, configuration, and operations was conducted to document the current SWTS configuration and operations. This SWTS OMP is based on the findings of the field survey and on the available existing design documentation.

This SWTS Operation and Maintenance Plan includes a description of the following:

- Storm water treatment system influent
- Storm water conveyance system
- SWTS components and configuration
- Routine SWTS operations
- Routine SWTS inspection criteria and maintenance requirements
- Annual SWTS inspection criteria and maintenance requirements
- Annual reporting requirements

# 1 INTRODUCTION AND BACKGROUND

## 1.1 OVERVIEW

The purpose of this Storm Water Treatment System Operation and Maintenance Plan (SWTS OMP) is to document the procedures that Pacific Wood Preserving of Oregon (PWPO) will perform to properly operate and maintain the facility's storm water treatment system in a manner that meets the numeric discharge limitations established in the facility's National Pollutant Discharge Elimination System (NPDES) permit. This SWTS OMP is organized as follows:

Section 1 - Introduction and Background
Section 2 - Facility Description and Contact Information
Section 3 - Storm Water Treatment System Overview
Section 4 - SWTS Description and Components
Section 5 - Operations and Maintenance
Section 6 – Corrective Actions, Recordkeeping and Reporting
Section 7 - References

## 1.2 PROJECT ORGANIZATION

The names and responsibilities of key project personnel involved with the preparation and implementation of the SWTS OMP for the PWPO facility are listed in Table 1.

**Table 1: Key Project Personnel**

| Name | Role | Email Address |
|---|---|---|
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## 1.3 BACKGROUND

This section summarizes PWPO's operations, existing contamination at the former TLT site, regulatory agreements, and existing pollution prevention measures currently used at the facility.

### 1.3.1 Pacific Wood Preserving of Oregon Operations

The PWPO facility is located in Sheridan, Oregon (Figure 1), and currently manufactures wood products treated with "General Use" and "Restricted Use" preservatives. Treated wood products include transmission poles, telephone and utility poles, distribution poles, dimensional lumber, laminated beams and fence posts. Water-borne "General Use" preservatives include ACQ Preserve® and borates. Oil-borne "General Use" preservatives include copper naphthenate (CuNap) and the oil-borne" Restricted Use" preservative Penta.

### 1.3.2 Existing Contamination

Prior to ownership by PWPO, the Sheridan Facility was owned by Taylor Lumber and Treating, Inc. (TLT). TLT operated a sawmill and wood treatment facility at the site from 1946 to 2001. Wood treating was conducted at the TLT Treatment Plant located in what was generally referred to as the West Facility, the location of PWPO's current operations.

Because of TLT's poor housekeeping practices, ditch sediments, surface soils, subsurface soils and groundwater were contaminated with historically used wood preservatives (i.e., Penta, creosote, arsenic, P-9 and diesel fuel). As a result, the TLT site was investigated by the federal government through the United States Environmental Protection Agency (EPA) and by the State of Oregon through the Department of Environmental Quality (ODEQ).

Under the EPA's Superfund Program, a final remedy for the TLT site was implemented that included an underground vertical barrier wall around and a low permeability MatCon asphalt cap over existing contaminated soils and groundwater under the TLT Treatment Plant. A groundwater extraction system was also installed to maintain groundwater inside the barrier wall below the level of the wall and to protect the integrity of the MatCon cap. Contaminated surface soils outside the Treatment Plant and sediments from ditches adjacent to the TLT site were excavated and disposed of off-site at a licensed facility. The remedy effectively prevents precipitation and storm waters from coming into contact with the remaining historic contamination at the site.

In May 2011, PWPO initiated a Baseline Assessment (BA) at the facility. The objective of the BA is to evaluate environmental conditions at the former TLT site prior to reintroducing Penta to the facility. The results of the BA were not available at the time this SWTS OMP was prepared.

### 1.3.3 Regulatory Agreements

PWPO acquired the assets of the TLT bankruptcy in 2002. On February 4, 2002, prior to purchasing the TLT site, PWPO entered into an Agreement and Covenant Not To Sue with EPA (EPA Docket CERCLA-10-2002-0034), which provides, among other terms, both a covenant not to sue and third party contribution protection from any claim or liability associated with Existing Contamination (as defined in paragraph 8.b of the Agreement). The Agreement also restricted the use of historic treatment chemicals, including Penta. On February 5, 2002, PWPO and the ODEQ entered into a State Prospective Purchaser Agreement (DEQ Docket No. 02-03) that included similar protections and restrictions.

Under the Agreements, in exchange for releasing PWPO from all liability associated with Existing Contamination, PWPO agreed to operate and maintain several critical components of the final remedy for the TLT site. The Agreements were amended in May 2011 to account for various changes at the facility, including modifications to the remedy and updated operation and maintenance requirements.

Additionally, due to limited market acceptance of CuNap treated wood products and CuNap supply-line concerns, PWPO requested and obtained permission from EPA and ODEQ to reintroduce Penta at the facility.

The amended Agreements require PWPO to perform the following additional tasks:

- Perform operations and maintenance of the MatCon Asphalt Cap, Groundwater Extraction System, and Storm Water Collection and Treatment System
- Prepare and implement an EPA- and ODEQ- approved plan for Best Management Plans
- Prepare and submit to EPA annual environmental audit reports (first report is due February 2012)
- Prepare and submit a draft SWTS OMP (this document)

In addition to these tasks, pursuant to the original Agreements, PWPO continues to collect and treat groundwater from inside the barrier wall via the facility's Storm Water Treatment System (SWTS).

### 1.3.4 Existing Pollution Prevention Measures

The following plans and permits have been prepared for TLT or PWPO to prevent pollution of the environment by activities conducted at the facility.

#### 1.3.4.1 BMP Plan

On August 23, 2011 PWPO submitted to EPA and ODEQ a Best Management Practices Plan (BMP Plan) for the Sheridan facility. The BMP Plan documents the rationale for selection of facility BMPs and describes the inspection, recordkeeping and reporting procedures PWPO will use to reduce potential pollutant loading to storm water and support a healthy environment at its facility in Sheridan, Oregon. PWPO received Agency comments on the BMP Plan on November 10, 2011. PWPO addressed Agency comments and issued the final BMP Plan on December 6, 2011 (BCI 2011). The Final BMP Plan will replace several documents prepared to address TLT operations. These documents are outdated and have not been adopted by PWPO. However, PWPO currently conducts routine inspection and maintenance activities that meet the intent of these plans.

The BMP Plan will replace the following documents.

- Storm Water Pollution Control Plan. Prepared for TLT in 1995 (EMCON August 21, 1995) to meet the requirements of the facility's NPDES permit and to form the basis for implementing interim action measures under the Resource Conservation and Recovery Act (RCRA) corrective action rules administered by EPA.

- Surface Water Runoff Inspection and Maintenance Plan. Prepared by TLT in 2000 (Maul Foster & Alongi, March 29, 2000). EPA required TLT to document the inspection and maintenance activities performed to ensure that the facility surface water management system was functioning correctly.

#### 1.3.4.2 Spill Prevention Control and Countermeasures Plan

In accordance with OAR340-141, Oil Spill Contingency Planning and Fees, and 40 CFR § 112, Oil Pollution Prevention, a revised SPCC Plan was prepared for the PWPO facility (Maul Foster & Alongi, November 9,

2009). The purpose of the plan is to establish procedures, methods, equipment and other measures to prevent, control, and counter the discharge of harmful quantities of oil into or upon navigable waters of the United States or their tributaries. PWPO currently follows this plan as part of its operations. A revised SPCC Plan will be prepared in the first quarter of 2012 to address changes in the facility as a result of the production of Penta concentrate.

#### 1.3.4.3 NPDES Permit

In the fall of 2000, TLT installed a Storm Water Treatment System (SWTS) to manage site-generated storm water runoff from the Treatment Plant Area. Prior to installation of the SWTS, all untreated storm water was discharged directly to the South Yamhill River. PWPO currently operates the SWTS consistent with the requirements of OAR 340-045 and 40 CFR Part 122.

PWPO discharges storm water from two outfalls, Outfalls 003 and 005, under a NPDES permit (No. 101267) administered by the ODEQ. Outfalls 001, 002 and 004 were eliminated during EPA remedy implementation after site drainage was modified to collect and route all storm water from the Treatment Plant and treated product storage yard to the SWTS. Currently, all treated effluent is discharged to Outfall 003 and into the South Yamhill River at river mile 38.9. Outfall 005 receives storm water runoff from the western portion of the site (i.e. the White Pole Storage Yard). This storm water is not treated prior to discharge into Rock Creek. PWPO monitors and samples both Outfall 003 and 005 in accordance with the terms of the NPDES permit.

PWPO's NPDES Permit was submitted to ODEQ for renewal in 2009. It is our understanding that ODEQ expects to renew the permit in 2015.

#### 1.3.4.4 Preparedness and Prevention Plan

PWPO has updated and implemented a Preparedness and Prevention Plan (June 2011) to satisfy the requirements of OAR 340-104-0001, 40 CFR § 262.34 and 40 CFR § 265 Subpart C, regarding facility operations and maintenance, equipment, communication or alarm systems, aisle space and arrangements with local authorities for generators of hazardous wastes.

#### 1.3.4.5 Contingency Plan And Emergency Procedures

PWPO has updated and implemented Contingency Plan and Emergency Procedures (June 2011) to satisfy the requirements of OAR 340-104-0001, 40 CFR § 262.34 and 40 CFR § 265 Subpart D. The document presents procedures to be used should an emergency involving hazardous waste occur at the facility.

#### 1.3.4.6 Drippage Management Contingency Plan

PWPO has updated and implemented its Drippage Management Contingency Plan (June 2011) to satisfy the requirements of 40 CFR § 265.440(c). This document describes procedures to identify and cleanup infrequent and incidental drippage from treated wood products.

#### 1.3.4.7 Air Contaminant Discharge Permit

PWPO operates under a Standard Air Contaminant Discharge Permit (Permit No. 36-7004-SI-01) administered by the ODEQ. Due to the increased emissions in volatile organic compounds (VOCs) when the facility began using Penta the permit was changed from a simple permit to a standard permit.

#### 1.3.4.8 Waste Water Treatment System

Waters generated as part the oil-borne preservative treatment process and water collected in the process areas, drip pads and tank farms are managed by the WWTS, which is located on the west end of the South Tank Farm. The WWTS is a zero discharge system.

The WWTS consists of storage tanks, skimmer tanks, polishing/utility tanks, an oil/water separator, bag filters, sump pumps, and an evaporator unit. Water from the WWTS is reused in the water borne preservative treatment process or evaporated; there is no discharge to the sanitary sewer system or the SWTS.

## 2.3 Site Map

Figure 2 shows that the facility is divided into two distinct operational areas: The Treatment Plant Area and the White Pole Storage Yard. The activities and potential pollutants sources on these two parts of the site differ significantly. The operational areas are separated by a north-south trending drainage ditch that divides the site into 2 distinct drainage areas with different outfalls.

## 2.4 Site Features

Figures 3 present the features of the Treatment Plant Area; Figure 4 presents the features of the White Pole Storage Yard.

### 2.4.1 Treatment Plant Area Activities

Storm water generated on the Treatment Plant Area of the PWPO Facility is routed to the SWTS. Treated storm water is discharge to the South Yamhill River via outfall 003. The primary activities conducted in the Treatment Plant include:

- Delivery and storage of raw logs and other untreated wood products
- Debarking raw logs at the peeler
- Delivery and storage of treatment chemicals
- Delivery and storage of products needed for equipment repair and maintenance (e.g., motor oil, lubricants, coolants, etc.)
- Incising and Staining
- Kiln drying wood prior to treatment
- Treating wood in the retorts
- Distributing treated wood products
- Support activities (e.g., equipment repair, refueling, hazardous waste storage, etc.)
- Wastewater recovery and treatment
- Storm water collection, conveyance and treatment
- Administrative functions

Primary activities conducted in the White Pole Storage Yard include:

- Raw pole storage and scaling
- White pole storage
- Inspection and grading of white poles
- Pole Framing
- Storm water collection and conveyance

# 3 SWTS OVERVIEW

## 3.1 History

A draft Storm Water Treatment System Operations and Maintenance Manual (O&M Manual) was prepared for TLT in 2000 (MFA August 25, 2000). The draft O&M Manual was prepared on the basis of the Interim Corrective Action Measures Stormwater Treatment Plan (MFA 1997) and Stormwater Treatment System Phase 1 and Phase 2 (MFA June 14, 2000).

On November 7, 2000 EPA, in a letter to TLT, disapproved of the draft O&M Manual and required several modifications. In December 2000, TLT submitted a modified O&M Manual to EPA. The modified O&M Manual was never accepted by EPA because of TLT's bankruptcy shortly after it was submitted.

The draft TLT O&M Manual (MFA 2000c) contain some useful information regarding the SWTS components and configuration. Of particular relevance are the manufacture's documentation of the system components and the following drawings:

Drawing 1: Conveyance Piping
Drawing 2: Treatment System Layout
Drawing 3: Process and Instrumentation Diagram

The details of the system components and manufacture's documentation are discussed in Sections 4 and 5 and various referenced appendices, respectively, of this SWTS OMP. Drawings from the draft TLT O&M Manual have been incorporated into this SWTS OMP in Appendix B.

## 3.2 2006 Evaluation of SWTS

In 2006, CH2MHill performed an evaluation of the SWTS at the request of EPA (CH2MHill 2006) for several reasons, including:

- Although construction of the SWTS was completed before TLT filed for bankruptcy, as-built documentation was incomplete. CH2MHill reviewed the system to document the SWTS components and configuration (Figure 7, Attachment D, CH2MHill 2006).

- The system was not constructed as originally designed.

- Implementation of remedy was expected to increase the amount of pavement by 4.4 acres, thereby increasing storm water run-off.

As part of the 2006 evaluation, storm water runoff flows for the Treatment Plant Area were calculated for the three contiguous drainage areas established in the Phase 1 & Phase 2 Report (MFA, June 14, 2000). CH2MHill noted during its evaluation that the drainage area contained, at the time of the evaluation, about 8.1 acres of asphalt/concrete pavement (out of a total area of 21.2 acres) consisting of:

- The asphalt cap over the area contained within the barrier wall (4.6 acres).
- The asphalt cap over the contaminated soil in the Treated Pole Storage Area (2.0 acres).
- Other miscellaneous asphalt/concrete surfaces (approximately 1.5 acres).

In addition to these areas, CH2MHill calculated storm water run-off after the anticipated 4.4 acres of new paved area over contaminated soil in the Treated Wood Storage Yard was constructed. The 2006 evaluation concluded that "If an additional 4.4 acres were paved (making a total of 12.5 acres), as was assumed in the Feasibility Study (CH2M HILL, December 2004), then the estimated flow would be 430,000 gallons/inch of rain, a 21 percent increase over current conditions."

In addition, the 2006 evaluation concluded that "…increasing the amount of surface runoff to the SWTS as currently configured is not recommended. The increased flow would result in more frequent use of the secondary transfer pump. When the secondary transfer pump is operating, the higher flow reduces the residence time in the mixing and sedimentation tanks, resulting in less efficient removal of dissolved metals and TSS and increased operational difficulties. Additionally, the likelihood of reaching the storage tank overflow bypass during heavy rainfall events would increase."

It should be noted that the additional 4.4 acres of pavement were not constructed because the contaminated soils in the Treated Wood Storage Yard were disposed of off-site by EPA. Therefore, the concerns about the residence times, efficient removal of dissolved solids, and operational difficulties, while valid under the assumed conditions, do not apply to the SWTS as currently configured and operated.

The 2006 evaluation also attempted to document the components of the SWTS (Figure 7, Attachment D, CH2MHill 2006). This figure also includes inaccuracies and/or changes in the SWTS configuration; Figure 5 of this SWTS OMP documents the components and configuration of the SWTS at the time this SWTS OMP was prepared.

## 3.3 Recalculation of Runoff

Since the CH2MHill calculation of storm water run-off flow, changes at the facility have occurred that could have changed the volume of storm water flow to the SWTS:

- The asphalt cap over arsenic containing soil in the western portion of the treated wood storage yard was removed as part of the remedy
- Contaminated soil in the Treated Wood Storage Yard was not capped as CH2MHill had assumed (based on the 2004 Feasibility Study – CH2MHill December 2004, Revised)
- The interim asphalt cap was replaced with a low permeability MatCon cap
- Cooling tower water was routed to the SWTS in 2008

The total drainage area has remained unchanged (21.2 acres) since the 2006 evaluation of the SWTS in 2006. However, the total asphalt covered areas have decreased 0.7 acres from 8.1 acres in 2006 to 7.4 acres as of this writing. The predicted runoff volume was recalculated based on the runoff capture efficiency values calculated by CH2M HILL and the current total (21.2 acres), gravel covered (14.1 acres), and paved areas (7.4 acres). For the 25-year design storm the predicted runoff is 1.16 million gallons per day which is 4% lower than CH2M HILL predicted.

# 4 SWTS DESCRIPTION AND COMPONENTS

This section presents a description of the SWTS and its components.

## 4.1 Influent Streams

The following influent streams are permitted for treatment in the SWTS under the facility's current NPDES permit:

- Stormwater runoff
- Extracted groundwater from inside the barrier wall
- Boiler blowdown water
- Cooling tower water

Storm water comprises more than 96% of the influent flow (CH2MHill 2006). Extracted groundwater is discharged to the storm water drains as shown in Appendix C, which contains a recent as-built drawing (CH2MHill 2009) showing storm water conveyance system features, including groundwater extraction well connections to the storm water drains. Boiler blowdown and cooling tower water enter the storm water conveyance system at Trench Drain #2, shown on Figure 6 (locations of storm water conveyance system features shown on Figure 6 are based on information provided on the as-built drawing in Appendix C). Boiler blown down is constantly discharged to the SWTS to prevent discharge of high temperature effluent.

### 4.1.1 SWTS Influent Flows

Flow rates in gallons per day (gpd) for the influent streams are estimated to be:

- Storm water: 0 to 1.16 million gpd
- Extracted groundwater (max): 360 gpd
- Boiler blowdown (max): 1,000 gpd
- Cooling tower water (max): 3,450 gpd

### 4.1.2 SWTS Influent Water Quality Characteristics

Information from the CH2MHill evaluation identified the following water quality characteristics for the SWTS influent:

- Total Suspended Solids (TSS)
- Dissolved metals (from drippage of treated wood products and/or boiler blowdown)
- Penta and other organic compounds associated with the remaining historic contamination (from extracted groundwater)
- Oil and grease (from vehicle drippage in storm water runoff and from boiler blowdown)

Since the CH2MHill evaluation, PWPO began treatment with Penta in June 2011. Wood products treated with Penta are expected to be another source of Penta to storm water (e.g., de minimis amounts of Penta from precipitation coming into contact with wood products treated with Penta).

## 4.2 Treatment System Components

The existing SWTS consists of the following components which are shown on Figure 5 and discussed in the below.

- Conveyance System
- Oil-Water Separator and Wet Well System
- Storage System
- Sedimentation System
- Filtration System
- Granular Activated Carbon System

### 4.2.1 Conveyance System

The storm water conveyance system is designed to collect storm water generated on the Treatment Plant Area and to convey the collected storm water to the SWTS. Most storm water run-off generated in the Treatment Plant Area of the facility is routed to the SWTS by gravity through the following components:

- French drains
- Catch basins
- Trench drains
- Buried culverts
- Open ditches

Figure 6 and Appendix C (which includes Figure B-1 from the BMP Plan) show the components and layout of the storm water conveyance system.

Storm water generated in the Treated Wood Storage Yard is collected by two interconnected french drains along the north and east property boundaries. The french drains connect to a buried storm water drain at a catch basin near the eastern property boundary, north of the Incisor Building. From this point the storm water generated in the eastern part of the facility is collected by a series of catch basins and routed by gravity to the SWTS.

A small part of the storm water generated on the western part of the Treated Wood Storage Yard is collected by an open ditch near the western boundary of the Treatment Plant Area. This open ditch connects to a buried storm water drain along the boundary between the Treatment Plant Area from the White Pole Storage Yard. A catch basin and trench drain located at the western end of the drip pad rails also connects to this buried storm water drain. This storm water drain connects to the trench drain north of the PWPO office which routes storm water by gravity to the SWTS.

A series of catch basins and a trench drain in the vicinity of the treatment plant collect storm water generated on the MatCon cap and routes the water to the SWTS.

Storm water that is not captured by the conveyance system described above either infiltrates into the soil or is evaporated. Also, several roof drains are routed directly to the drainage ditch along the east and south sides of the facility.

Extracted groundwater is routed to storm water drains as shown on the as-built figure in Appendix C. Boiler blowdown and cooling tower water are injected into trench drain 2 (TD-2) upgradient of the oil-water separators (Figure 6).

### 4.2.2 Oil-Water Separator and Wet Well System

The Oil-Water Separator and Wet Well System consist of the following components:

- Two coalescing oil-water separators
- A 12-foot diameter concrete wet well
- Two vertical shaft centrifugal pumps
- Four floats
- Control panel (pump start/stop)
- Piping and valves between the wet well and the storage tank.

The oil-water separators are sized to "handle the majority of a 25-year 24-hour design storm" (MFA December 2000).

The wet well contains two, vertical shaft, float-activated centrifugal pumps. Four floats turn the pumps on and off based on the level of water in the wet well. The fifth float activates a high water level alarm.

The low flow, primary pump is a 1,000 gallon per minute (gpm) centrifugal pump that operates under normal conditions and pumps water to the storage tank. The high flow, secondary pump is a 3,000 gpm centrifugal pump that operates in combination with the primary pump to pump water to the storage tank during periods of high storm water flows when the level in the wet well reaches the second float. The wet well has an overflow bypass which routes storm water to the outfall to prevent site flooding and property damage. Currently, the bypass is blocked to prevent high water in the Rock Creek road side ditch from entering the wet well during time of heavy rainfall.

Two check-valves after the primary and secondary pumps prevent back flow from the storage tank to the wet well.

### 4.2.3 Storage System

Water from the wet well is pumped to a 500,000 gallon above ground, factory coated, bolted steel, open topped storage tank located in the southeast corner of the facility. The tank is 59 feet in diameter and approximately 24 feet tall. The storage tank in conjunction with the sedimentation tanks is designed to contain a 25-year, 24-hour storm event. The storage tank is equipped with the following inlet and outlets:

- Inlet from the wet well system (valve is normally open)
- Inlet from the GAC vessels to receive dirty backwash water (valve normally closed)
- Outlet to the sedimentation system via transfer pumps (valves are normally open)
- Overflow to the SWTS outfall
- Drain valve (normally closed)
- Manway (normally bolted closed)

The north side of the tank has a visible level gauge reading the height of water in the tank to a maximum height of 24 feet. If the water level in the tank exceeds 24 feet, the water is routed to an overflow

bypass to the outfall without treatment. The tank provides detention storage and equalizes flow to the rest of the system via two transfer pumps (T-1 and T-2) discussed in the Sedimentation System section.

Floats in the storage tank activate transfer pumps (T-1 and T-2) which transfer water to the mix tanks based on the level of water in the storage tank.

### 4.2.4 Sedimentation System

The sedimentation system is designed to precipitate dissolved metals and remove suspended solids. It consists of the following:

- Two transfer pumps (T-1 and T-2)
- Two chemical storage sheds
- Two mix tanks
- Four sedimentation tanks
- Sludge handling system (pump and filter press)

#### 4.2.4.1 Transfer Pumps

The Sedimentation System includes primary (T-1) and secondary (T-2) transfer pumps and associated instruments, piping and controls. The pumps draw water from the bottom of the storage tank and convey the water to the mix tanks. The primary transfer pump (T-1) is a low flow, 250 gpm centrifugal pump; the secondary pump (T-2) is a 1,450 gpm centrifugal pump.

A flow meter on the discharge side of the primary pump is used to record flows from the primary pump only.

#### 4.2.4.2 Chemical Storage Sheds

Chemical storage shed #1 contains a 1,800 gallon plastic tank that contains a metals precipitant, which is delivered to the site by tanker truck. From the 1,800 gallon storage tank, precipitant is pumped to a 250 gallon tank in chemical storage shed #2 where it is injected into the storm water treatment system. In addition to the precipitant tank, chemical storage shed #2 contains the following:

- A 300 gallon steel tank for mixing and holding a polymer
- Two 55-gallon chemical drums (i.e., caustic solution and metals reducing agent)
- Metering pumps

#### 4.2.4.3 Mix Tanks

The transfer pumps (T-1 and T-2) transfer storm water to the 7,500 gallon rapid mix tank, where water treatment chemicals are mixed with the storm water to adjusted pH and facilitate the formation of floc. A mechanical mixer attached to the top of the tank with impellers attached to a shaft extending into the tank facilitates mixing.

When the water level in the rapid mix tank reaches the top of the tank, storm water flows by gravity into the 4,250 gallon slow mix tank. Prior to entering the slow mix tank, a polymer is injected into the inlet line to help solids bind to each other. A mechanical mixer attached to the top of the tank facilitates mixing the polymer with the storm water.

#### 4.2.4.4 Sedimentation Tanks

Effluent from the slow mix tank enters the bottom of four, cone-bottom sedimentation tanks by gravity. The combined capacity of the four sedimentation tanks is 70,000 gallons. A series of butterfly valves enables PWPO to isolate individual sedimentation tanks for sludge removal and repairs while keeping the system operational. The normal operating configuration for the sediment tanks to be operated in parallel.

#### 4.2.4.5 Sludge Handling System

The Sludge Handling System consists of:

- Filter press
- Bellows transfer pump
- Filter cake temporary storage
- Filter press shed

The filter press is a 10 cubic foot plate and frame filter press capable of handling the volume of sludge produced throughout the year. In the winter months the filter press can process up to 20 cubic feet per day (i.e., 2 cycles). The filter press is housed in a shed on the north side of the SWTS.

### 4.2.5 Bag Filtration System

The filtration system consists of the following components:

- Surge tank
- Two filter pumps
- Five bag filter vessels
- Instrumentation, controls and piping

Effluent from the top of each sedimentation tank flow to the 5,800 gallon Surge Tank. Two filter pumps (T-3 and T-4) transfer water from the bottom of the Surge Tank to five bag filters vessels. Each bag filter vessel contains 12 bag filters.

The primary, low flow pump (T-3) is a 375 gpm centrifugal pump that operates under normal conditions. The secondary, high flow pump (T-4) is a 1,450 gpm centrifugal pump that operates in combination with the low flow pump for a total capacity of1,825 gpm. The pumps are controlled by three float switches in the Surge Tank.

The bag filter system consists of a 50 micron bag filter vessel, 2-25 micron bag filter vessels and 2-10 micron bag filter vessels. The top and bottom of the pressure vessels are equipped with pressure gauges that enable the operator to determine the pressure differential across the filters.

### 4.2.6 Granulated Activated Carbon System

The granulated activated carbon (GAC) system consists of the following:

- Two 20,000 pound GAC vessels
- One backwash tank
- One backwash pump
- Piping and instrumentation

The GAC system is a self contained, skid mounted unit and includes two 20,000 pound GAC vessels. Effluent from the 10 micron filter bag vessels moves under pressure and in parallel to the top of each of the GAC vessels. Water flows through the activated carbon where dissolved organic compounds, such as Penta and other petroleum based compounds, are removed via adsorption. The effluent exits at the bottom of the GAC vessel and is discharged to Outfall 003.

## 4.3 Normal Operations

Figure 7 shows the movement of influent through the SWTS during normal operations. The treatment cycle begins when influent is transferred from the wet well to the storage tank. When the water level in the storage tank is two feet, a float activates the low flow pump which transfers storage tank water to the rapid mix tank. At the rapid mix tank, water treatment chemicals are injected to adjust pH and condition water for precipitation of solids and metals.

Effluent from the rapid mix tank flows from the top of the tank, where another polymer is injected into the inlet at the top of the slow mix tank. Effluent from the bottom of the slow mix tank flows into the bottom of the sedimentation tanks, where it travels upwards through the tanks to the outlets near the top of each tank. A sludge blanket near the bottom of each sedimentation tank traps and binds small particles (pin floc) together to form larger floc which settles to the bottom of each tank (i.e., sludge).

From the top of the sedimentation tanks effluent flows into the surge tank. Floats inside the surge tank activate pumps which transfer effluent from the bottom of the surge tank through the bag filter system and GAC system. The bag filters trap progressively fine particulates. The GAC system remove dissolved organic materials, like Penta. The effluent from the GAC system is routed to Outfall 003, the road side ditch and the South Yamhill River.

Sludge from the bottom of the sedimentation tanks is periodically pumped out of the tanks to the filter press. When the press is full, the filter cake is removed from the plates and placed in a bin located below the press. Filter cake is transferred to the Dry Shed where it is temporarily stored until sufficient volume warrants disposal. The filter cake is profiled every year to ensure proper disposal. Water from the filter press is routed to the oil-water separator.

## 4.4 Backwashing

Backwashing is done as needed to remove solids from the GAC using treated water stored in the backwash tank. Figure 8 shows the flow of water through the system during the backwash cycle. The backwash tank is filled with effluent from the GAC system before the need for backwashing, early in the treatment cycle. During backwashing, treated effluent passes upwards, in parallel through the bottom of each GAC vessel to outlets at the top of each GAC vessel. During the upward migration, the backwash tank effluent removes solids and other materials that are reducing the removal efficiency of the GAC.

# 5 OPERATIONS AND MAINTENANCE

This section presents information on the operations and maintenance (O&M) requirements of SWTS components described in Section 4.

## 5.1 Common Elements of the

There are 8 common elements to the Operations and Maintenance Plan that are described in this section and referenced as needed in Section 5.2, Operations and Maintenance Requirements. These common elements are:

- Definition of Terms
- NPDES Non-Compliance
- Twenty-Four Hour Reporting
- Solids and Debris Disposal
- Annual Inspection
- Corrective Action Form
- Confined Space Entry
- Recordkeeping and Reporting

### 5.1.1 Definition of Terms

To ensure a common understanding of inspection criteria and other terms used in Section 5.2, Appendix D includes a list of criteria and terms, and their definitions.

### 5.1.2 NPDES Non-Compliance

Schedule F, Section D, Item 5 of PWPO's NPDES permit, requires PWPO to report any noncompliance with NPDES requirements which may endanger human health or the environment, including noncompliance as a result of the failure of the SWTS or any of its components. Information must be provided orally (by telephone) within 24 hours from the time PWPO becomes aware of the circumstances. During normal business hours, the Regional Office of the DEQ shall be notified (503- 378-6967); after hours, DEQ shall be contacted through the Oregon Emergency Response System (1-800-452-0311).

A written submission shall also be provided within 5 days of the time that PWPO becomes aware of the circumstances. If PWPO is establishing an affirmative defense of upset or bypass to any offence under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to DEQ within 4 calendar days. The written submission shall include:

- A description of the noncompliance and its cause
- The period of noncompliance (dates and times)
- The estimated time noncompliance is expected to continue if it has not been corrected
- Steps taken or planned to reduce, eliminate and prevent recurrence of noncompliance, and
- Public notification steps taken, pursuant to General Condition B.7 of the permit.

The following shall also be included as information which must be reported within 24 hours:

- Any unanticipated bypass which exceed any effluent limitations in PWPO's permit
- Any upset which exceeds any effluent limitation in PWPO's permit

- Violation of maximum daily discharge limitations for any of the pollutants listed by the Director in PWPO's permit

### 5.1.3 Twenty-Four Hour Reporting

If an overflow or bypass alarm is activated, the facility's storm water system operator, or designee, will be notified and will determine the cause for the alarm and implement a remedy, if possible. If it is determined that untreated storm water was discharged to Outfall 003, the storm water system operator or designee will notify PWPO's Director of Environment, Health and Safety (EHS), Plant Manager, General Manager, and treating plant operations officer, designee and/or legal counsel.

Upon confirmation that untreated storm water was discharged, the treating plant operations officer, or designee, and/or legal counsel will complete the notification requirements contained in the facility NPDES permit and the following organizations:

- Regional Office of the DEQ (503- 378-6967)
- If after hours, the Oregon Emergency Response System (1-800-452-0311)

Telephone numbers for these organizations are posted in the treating room and in other areas where employees congregate.

### 5.1.4 Solids and Debris Disposal

As a result of the routine or preventative maintenance of the SWTS it will be necessary to dispose of sediments, solids, debris and water. Solid materials will be placed in 55-gallon drums or larger containers and profiled (i.e., TCLP metals and total Pent) prior to disposal. When necessary solids will be allowed to settle out and the water will be discharged to the SWTS. Hazardous and solid waste will be shipped off site for disposal at a facility permitted to receive the specific type of waste.

Oil recovered from the oil-water separators during the annual inspection will be process through the Waste Water Treatment System to recover and reuse the oil. Water from the wet well or oil-water separators will be routed to the storage tank for treatment through the SWTS.

### 5.1.5 Annual Inspection

An annual inspection will be conducted every year during the dry season to evaluate the need for, and to perform, preventative maintenance on the SWTS. Specific annual inspection requirements and corresponding preventative maintenance actions are discussed in each subsection of Section 5.2. Annual inspection checklists are presented in Appendix E. The annual inspection is intended to be preventative in nature and will not replace maintenance actions required as a result of routine inspections. Forms for routine inspections are included in the appendices containing manufacture's documentation for the different components of the SWTS.

### 5.1.6 Corrective Action Form

A corrective action form is included in Appendix F to document corrective actions taken as a result of routine and/or annual inspections discussed below.

### 5.1.7 Confined-Space Entry

Confined-space entry requirements must be followed at all times during cleanout of the oil-water separators, wet well , 500,000 gallon storage tank, mix tanks, sedimentation tanks, surge tank, backwash tank, and GAC vessels.

### 5.1.8 Record Keeping and Reporting

All records of inspections, maintenance activities and repairs will be kept and incorporated into the facility's Annual Environmental Audit Report (as needed).

## 5.2 Operations and Maintenance Requirements

This section describes the operations and maintenance requirements PWPO will implement to ensure that the SWTS meets the discharge limitations established in the facility's NPDES permit.

## 5.3 Conveyance System

This section describes the operations and maintenance requirements of the storm water conveyance system.

### 5.3.1 Operations

Storm water run-off generated in the Treatment Plant Area flows through the storm water conveyance system via gravity; no manual or automatic facilities are part of the conveyance system.

### 5.3.2 Maintenance

Maintenance of the storm water conveyance system is to be performed in accordance with the Best Management Practices (BMP) established in the BMP Plan (BCI August 2011) and according to the inspection and schedule established below.

#### 5.3.2.1 Inspections and Schedule

PWPO will inspect the conveyance system according to the criteria and schedule shown on Table 4. Figure 6 shows the location of the catch basins and other conveyance system components.

**Table 4: Conveyance System Inspection Criteria**

| Conveyance System Component | Criteria | Schedule |
|---|---|---|
| Perimeter Drains | • Proper Operation<br>• Flow | Daily[a] |
| Catch Basins (10) | • Proper Operation<br>• Cleanliness<br>• Flow<br>• Visible Contamination<br>• Grate Condition<br>• Absorbent Sock | Daily[a] |
| Trench Drains (3) | • Proper Operation<br>• Cleanliness<br>• Flow<br>• Visible Contamination<br>• Grate Condition<br>• Absorbent Sock | Daily[a] |
| Open Drainage Ditches (2) | • Proper Operation<br>• Cleanliness<br>• Flow<br>• Visible Contamination | Daily[a] |
| Buried Culverts/Pipes | • Proper Operation<br>• Flow | Daily[a] |

[a] means every day during the rainy season as defined in Appendix D.

Results of the inspection of the conveyance system will be documented on an inspection checklist included in Appendix G. Locations of the storm water conveyance system features are shown on Figure B-1 of the BMP Plan, which is included in Appendix C.

In addition to the above criteria, PWPO will inspect the facility for unanticipated run-off daily during heavy storms. Staging areas and the treated wood inspection and storage areas will be inspected for evidence of petroleum hydrocarbon and/or treatment chemical drippage as part of the facility's BMP Plan.

#### 5.3.2.2 Routine Maintenance

The need for routine maintenance will be based on the results of the inspections described in Table 4. In general, if a component of the conveyance system requires routine maintenance as a result of the inspection, it will be carried out as soon as possible.

Unanticipated run-off from the site, blockage or obstruction of flow in conveyance system components, visible contamination, and improperly operating equipment will be addressed upon discovery, regardless of whether identified as a result of an inspection or casual observation by PWPO staff while performing other work.

#### 5.3.2.3 Annual Inspection and Preventative Maintenance

As part of the Annual Inspection, PWPO will inspect and clean out the following components of the conveyance system:

- French Drains
- Catch Basins

- Trench Drains
- Manholes

The proper operation of the french drain system will be assess during the rainy season. The french drain system assessed during a heavy storm event by observing the flow of water in the downgradient clean out (i.e., in the northeast corner of the site) and Catch Basin #1. Water moving through these points will be evidence that the French drain system is operating properly.

Catch basins, trench drains and manholes will also be cleaned and inspected annually. Figure 6 shows the location of the catch basins and other conveyance system components.

### 5.3.3 Alarms

Alarms are not associated with the storm water conveyance system.

## 5.4 Oil-Water Separator and Wet Well System

This section describes the operations and maintenance requirements of the oil-water separator and wet well system. Manufacture's documentation on the oil-water separator and wet-well system is included in Appendix H.

### 5.4.1 Operations

The oil-water separator system is a passive system; no manual or automatic facilities are part of the system. Influent from all sources enters a series of below grade vaults that comprise a parallel operating oil-water separator. The oil-water separators contains coalescing plates and overflow and underflow baffles to remove light and dense petroleum based products, floating wood debris, and sediments. Oil-water separator effluent flows by gravity to the wet well which contains two, vertical shaft, float-activated centrifugal pumps.

Operation of the two vertical shaft wet well pumps is controlled by five floats in the wet well as follows:

- The lowest float turns off the pumps
- The next float turns on the primary pump
- The third highest float turns off the secondary pump
- The fourth highest float turns on the secondary pump in conjunction with the primary pump
- The highest float activates a high level alarm indicating that storm water is bypassing the SWTS

The low flow, primary pump operates under normal conditions and pumps water to the storage tank. The high flow, secondary pump operates in combination with the primary pump during periods of high storm water flows when the level in the wet well reaches the third float. If the volume of influent into the wet well exceeds the combined capacity of the primary and secondary pumps, an overflow bypass routes storm water to the Rock Creek Road drainage ditch to prevent site flooding and property damage. Currently, this bypass is plugged to prevent high water in the drainage ditch along Rock Creek Road from entering the wet well during time of heavy rainfall.

Two check-valves after the primary and secondary pumps prevent back flow from the storage tank to the wet well. A gate valve downstream of the wet well pumps is open during normal operations. The valve is only closed during maintenance of the pumps.

Three control settings are available for each pump: hand, off and auto. The "hand" setting overrides the auto setting and turns on each pump regardless of the level of water in the storage tank. Under normal operating conditions, pump settings are set to the "auto" position so that the pumps are activated by the floats in the wet well.

### 5.4.2 Maintenance

#### 5.4.2.1 Inspections and Schedule

PWPO will routinely inspect the oil-water separators and wet well system components according to the criteria and schedule shown on Table 5.

**Table 5: Oil-Water Separator and Wet Well System Inspection Criteria**

| Component | Criteria | Schedule |
|---|---|---|
| Oil-Water Separators | • Flow | Daily[a] |
| Wet Well Pumps Vertical Shaft Pumps ( WP-1 and WP-2) | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Wet Well Floats | • Proper Operation | Daily[a] |
| Wet Well Pump Control Panel | • Hand/Off/Auto<br>• Proper Operation | Daily[a] |
| Well Discharge Pump Valves | • Proper Operation<br>• Leakage<br>• Normally Open | Daily[a] |

[a] means every day during the rainy season as defined in Appendix D.

Results of the inspections will be documented on an inspection checklist included in Appendix H.

#### 5.4.2.2 Routine Maintenance

The need for actions to address routine maintenance needs will be based on the results of the inspections described in Table 5. In general, if a component of the oil-water separator and wet well system requires routine maintenance as a result of the inspection, it will be carried out as soon as possible.

System blockage, visible contamination (with the exception of oil on the coalescing plates), improperly operating, dirty or leaking valves or equipment will be addressed upon discovery, regardless of whether the need was identified as a result of a routine inspection or casual observation by PWPO staff performing other work duties.

- In addition to actions that are taken as a result of inspections, routine maintenance on the wet well pumps consists of greasing the bearings weekly as needed.

#### 5.4.2.3 Annual Inspection and Preventative Maintenance

As part of the annual preventative maintenance inspection, the condition of the oil-water separators will be assessed. The oil-water separators will be assessed during the dry season when flow to the system is not expected. Water in the oil-water separators will be pumped out and the depth of sediment and condition of the oil-water separators noted.

Annual preventative maintenance of the wet well pumps will consist of the following:

- Inspecting and replacing the bearings
- Inspecting and servicing impellers

### 5.4.3 Alarms

If a pump fails or a design storm is exceeded and the level in the wet well results in a system bypass, PWPO will notify the proper authorities as described in Sections 5.1.1 and 5.1.2.

## 5.5 Storage System

This section describes the operations and maintenance requirements of the Storage System. Manufacture's documentation on the storage system is included in Appendix I.

### 5.5.1 Operations

The storage system is a passive system; no manual or automatic facilities are part of the system. If a storm exceeds a 25-year 24-hour design storm, or if the SWTS is not functioning properly, untreated water in the tank may be discharge directly to Outfall 003 to prevent damage to the facility (as defined in Schedule F, Section B, Item 3 Bypass of Treatment of the facility's NPDES permit).

### 5.5.2 Maintenance

#### 5.5.2.1 Inspections and Schedule

PWPO will routinely inspect the storage tank components according to the criteria and schedule shown on Table 6.

**Table 6: Storage System Inspection Criteria**

| Component | Criteria | Schedule |
|---|---|---|
| 500,000 Gallon Tank | • Proper Operation<br>• Flow<br>• Test Alarm Strobe | Daily[a] |
| Valves | • Proper Operation<br>• Leakage<br>• Drain Valve is Normally Closed<br>• Backwash Valve is Normally Closed | Daily[a] |

[a] means every day during the rainy season as defined in Appendix D.

#### 5.5.2.2 Routine Maintenance

The need for routine maintenance will be based on the results of the routine inspections described in Table 6. In general, routine maintenance of the storage tank, alarm strobe and valves will be carried out as soon as possible.

Blocked flow from the tank outlet to transfer pumps, improperly opening/closing valves, or leaking valves will be addressed upon discovery, regardless of whether the need was identified as a result of a routine inspection or chance observation of PWPO staff while performing other work duties.

#### 5.5.2.3 Annual Inspection and Preventative Maintenance

The following will be inspected as part of the annual inspection per the manufacture's documentation (Appendix I):

- Tank Foundation – foundation cracks; voids between tank and concrete slab
- Tank Shell - seams for distortion, cracks, leaks and corrosion; random bolt tightness
- All fittings - leaks
- Liquid level operation
- Gauge board cleanliness
- Sheave rollers for smooth operation
- Float cable for wear and broken strands
- Tightness of ladder bolts

During the annual inspection, the storage tank will be emptied (i.e., stored water will be treated) and the depth of sediment accumulation gauged and recorded. Sediments that have accumulated in the storage tank will be removed and characterized for disposal. Sediments in the storage tank will be removed by vacuum trucks and transferred to the filter press for dewatering. It is anticipated that solids will only have to be removed from the storage tank once a year concurrent with the dry weather inspection.

### 5.5.3 Alarms

If overflow from the storage tank occurs PWPO will notify the proper authorities as described in Sections 5.1.1 and 5.1.2.

## 5.6 Sedimentation System

This section describes the operations and maintenance requirements of the sedimentation system. Manufacture's documentation on the sediment system is included in Appendix J.

### 5.6.1 Operations

Operation of each of the components of the sedimentation system is described below.

#### 5.6.1.1 Transfer Pumps

The primary transfer pump (T-1) is a 250 gpm centrifugal pump activated by a float when the level in the storage tank reaches approximately 2 feet in height. The secondary transfer pump (T-2) is a 1,450 gpm centrifugal pump that operates in combination with the primary pump when the level in the storage tank reaches 19 feet (approximately 400,000 gallons of stored influent) for a combined pumping capacity of 1,700 gpm.

A metals precipitant is injected before both the primary and secondary pumps to treat water before entering the rapid mix tank. A check-valve after the primary pump prevents backflow from the first mix tank.

The control panel for the transfer pumps is directly west of the pumps and has three settings for each pump: hand, off, auto. The "hand" setting overrides the auto setting and turns each pump on regardless of water level in the storage tank. Under normal operating conditions the control panel is positioned in

the “auto” setting so that the pumps are actuated by floats in the storage tank. The “off” setting turns the pumps off.

#### 5.6.1.2 Chemical Storage Sheds And Metering Pumps

Metering pumps in chemical storage shed #2 are designed to deliver a pre-determined amount of treatment chemicals to the mix tanks, with the exception of the caustic and metals reducing solutions, which are controlled by pH and oxidation-reduction potential (ORP) sensors, respectively, in the rapid mix tank.

#### 5.6.1.3 Mix Tanks

As effluent is transferred from the storage tank to the rapid mix tank, water treatment chemicals are added to facilitate metals and colloidal suspension flocculation. A precipitant is injected before both the primary and secondary pumps.

A caustic solution (alkaline based chemistry) is added to the rapid mix tank (i.e., mix tank #1) utilizing a pH controller to maintain the pH between 8.0 and 9.0 and optimize metal precipitation. Set points on the controller trigger a chemical metering pump to start and stop dosing at preset pH levels.

A metals reducing agent is also added to the rapid mix tank to reduce soluble divalent metal cations to an insoluble monovalent state. This reaction is controlled utilizing an ORP controller set to maintain a negative ORP reading. Set points on the controller trigger a chemical metering pump to start and stop dosing at preset ORP levels.

As effluent from the rapid mix tank flows by gravity into the top of the slow mix tank (i.e., the second mix tank) a polymer is injected into the inlet line to help solids bind to each other. A mechanical mixer on the top of each mix tank facilitates the distribution of the treatment chemicals throughout the tanks. However, water in the slow mix tank is gently mixed so that the floc is not sheared.

There is also a recirculation loop between the rapid mix tank and sedimentation tank #2, which pulls “seed floc” from the sedimentation tank to the rapid mix tank. This loop helps metals flocculation by redistributing the newly introduced floc from the rapid mix tank to all sedimentation tanks.

The control panel for the mixers has two settings: on and off. The “on” setting turns the mixers on regardless of the transfer pumping condition (i.e., on or off) on. The “off” setting turns the mixers off.

#### 5.6.1.4 Sedimentation Tanks

The water and flocculated particles (pin floc) from the slow mix tank enter near the bottom of the sedimentation tanks, where a sludge blanket is formed. In the sludge blanket, the smaller “pin floc” particles bind together to form larger floc particles that settle to the bottom of the sedimentation tanks as sludge. The sludge blanket acts as a filter that traps the smaller floc.

#### 5.6.1.5 Sludge Handling System

Sludges from the bottom of the sedimentation tank are pumped directly to the filter press. The sludge transfer pump is manually activated by PWPO using a start/stop control panel. When the press is full, an operator removes the filter cake from the filter press plates into a storage bin directly below the press. Filter cake is then transferred to the Dry Shed where it is temporarily stored until sufficient volume warrants disposal. The filter cake is profiled annually for disposal (it is typically treated as a non-

hazardous waste). Water from the filter press is routed directly to the oil-water separators for treatment.

The frequency of sludge removal is dependent on storm water flow and constituent loading. Removal is typically monthly on a rotating tank basis.

### 5.6.2 Maintenance

Maintenance of each of the components of the sedimentation system is described below.

#### 5.6.2.1 Inspections and Schedule

PWPO will routinely inspect the Sedimentation System according to the criteria and schedule shown on Table 7.

**Table7: Sedimentation System Inspection Criteria**

| Component | Criteria | Schedule |
|---|---|---|
| Transfer Pumps (T-1 and T-2) | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Floats in Storage Tank | • Proper Operation | Daily[a] |
| Mixers (M-1 and M-2) | • Proper Operation | Daily[a] |
| Mixer (M-1 and M-2) Control Panel | • On/Off<br>• Proper Operation | Daily[a] |
| Metering Pumps | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Mix and Sedimentation Tanks | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Filter Press | • Proper Operation<br>• Leakage | Daily[b] |
| Transfer Pump (T-1 and T-2) Control Panel | • Hand/Off/Auto<br>• Proper Operation | Daily[a] |
| Transfer Pump Discharge Valves | • Proper Operation<br>• Leakage<br>• Normally Open | Daily[a] |
| Sludge Transfer Pump | • Proper Operation<br>• Flow<br>• Leakage | Daily[b] |
| Sludge Transfer Pump Discharge Valves | • Proper Operation<br>• Leakage<br>• Normally Open | Daily[b] |
| Chemical Tanks and Drums | • Check levels, replenish as needed | Daily[b] |

[a] means every day during the rainy season as defined in Appendix D.
[b] means every day when the system is operational.

Results of the inspections will be documented on an inspection checklist included in Appendix J.

#### 5.6.2.2 Routine Maintenance

The need for routine maintenance will be based on the results of the routine inspections described in Table 7. In general, if a component of the sedimentation system requires routine maintenance as a result of the inspection, it will be carried out as soon as possible.

System blockage, inoperable pumps, visible contamination, improperly operating, dirty or leaking valves and/or tanks will be addressed upon discovery, regardless of whether the need was identified as a result of a routine inspection or casual observation by PWPO staff while performing other work duties.

In addition to maintenance required as a result of inspection, PWPO will perform the following maintenance requirements.

##### 5.6.2.2.1 Transfer Pumps

Routine maintenance on the transfer pumps will be performed as described in Appendix J, including:

- Greasing the bearings on the primary transfer pump (T-1) motor weekly, as needed
- Greasing the bearings on the secondary transfer pump (T-2) motor quarterly

##### 5.6.2.2.2 Chemical Storage And Metering Pumps

Chemicals are stored and protected as recommended by the chemical supplier. Manufacturer's documentation for the metering pumps is included in Appendix J.

Routine maintenance related to the chemical storage consists of checking the level of chemicals daily and replacing polymer as necessary.

##### 5.6.2.2.3 Mix Tanks

Routine maintenance for the mechanical mixers includes the following:

- Checking oil level in mixer gear boxes and adding as needed

##### 5.6.2.2.4 Sedimentation tanks

Routine maintenance of the sedimentation tanks includes monthly gauging of the depth of sediment accumulation.

##### 5.6.2.2.5 Sludge Handling System

The filter press will be maintained as described in the manufacturer's maintenance manual in Appendix J. Filter press maintenance will include:

- Weekly inspection of the filter fabric, and changing as needed
- Changing the hydraulic oil and oil filter every 6 months

#### 5.6.2.3 Annual Inspection and Preventative Maintenance

##### 5.6.2.3.1 Transfer Pumps (T-1 and T-2)

Annual preventative maintenance of the transfer pumps T-1 and T-2 will consist of the following:

- Replacing and inspecting bearings
- Inspecting and servicing impellers

#### 5.6.2.3.2 Chemical Storage and Metering Pumps

PWPO maintains extra metering pumps onsite should the need arise to replace or perform maintenance on a pump.

#### 5.6.2.3.3 Mix Tanks

As part of the annual inspection, the mix tanks will be pumped out and inspected. Solids that have accumulated in the tanks will be removed and the condition of the tanks observed and recorded. Significant corrosion or deterioration will be corrected as necessary.

Annual preventative maintenance of the mechanical mixers will consist of the following:

- Changing the oil in gear boxes

#### 5.6.2.3.4 Sedimentation Tanks

As part of the annual inspection, the sedimentation tanks will be pumped out and inspected. Solids that have accumulated in the tanks will be removed and properly disposed of, and the condition of the tanks observed and recorded. Significant corrosion or deterioration will be corrected as necessary.

#### 5.6.2.3.5 Sludge Handling System

The filter press will be inspected annually for evidence of normal wear and tear and parts will be replaced as needed to maintain the system.

### 5.6.3 Alarms

No alarms are associated with the sedimentation system.

## 5.7 Bag Filtration System

This section describes the operations and maintenance requirements of the bag filtration system. Manufacture's documentation on the bag filtration system is included in Appendix K.

### 5.7.1 Operations

Effluent from the sedimentation tanks flows out of the top of each tank by gravity to the surge tank. The primary and secondary filter feed pumps (i.e., T-3 and T-4) draw from the bottom of the surge tank and transfer the water through a series of five bag filter vessels. Each bag filter vessel contains 12 bag filters.

The water enters the first filter vessel, which contain 50 micron bag filters. Water from the first vessel is split into two parallel streams each entering a 25 micron bag filter vessel, and then two 10 micron bag filter vessels.

The control panel for the filter feed pumps has three settings: hand, off, auto. The "hand" setting over rides the "auto" and turns on the filter feed pump(s) regardless of the water level in the surge tank. Under normal operations the setting is "auto" so that the pumps can be activated by floats in the surge tank.

### 5.7.2 Maintenance

#### 5.7.2.1 Inspection and Schedule

PWPO will routinely inspect the bag filtration system according to the criteria and schedule shown on Table 8.

**Table 8: Bag Filtration System Inspection Criteria**

| Component | Criteria | Schedule |
|---|---|---|
| Transfer Pumps (TP-3 and TP-4) | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Floats in Surge Tank | • Proper Operation | Daily[a] |
| Surge Tank | • Proper Operation<br>• Flow<br>• Leakage | Daily[a] |
| Filter Vessels | • Proper Operation<br>• Flow<br>• Leakage<br>• Pressure Differential<br>• Changing filter bags[c] | Daily[a] |
| Transfer Pump (T-3 and T-4) Control Panel | • Hand/Off/Auto<br>• Proper Operation | Daily[a] |
| Transfer Pump Discharge Valves | • Proper Operation<br>• Leakage<br>• Normally Open | Daily[a] |

[a] means every day during the rainy season as defined in Appendix D.

[c] filter bags will be changed when differential pressure is 15 psi or greater

Results of the inspections will be documented on an inspection checklist included in Appendix K.

#### 5.7.2.2 Routine Maintenance

The need for routine maintenance will be based on the results of the routine inspections described in Table 8. In general, if a component of the Bag Filtration requires routine maintenance as a result of the inspection, it will be carried out as soon as possible. In addition to maintenance required as a result of inspection, PWPO will perform the following maintenance requirements.

System blockage, inoperable pumps, visible contamination, improperly operating, dirty or leaking valves and/or tanks will be addressed upon discovery, regardless of whether the need was identified as a result of a routine inspection or casual observation by PWPO staff while performing other work duties.

##### 5.7.2.2.1 Transfer Pumps

Routine maintenance on the transfer pumps will be performed as described in Appendix K, including:

- Greasing the bearings on the primary transfer pump (T) motor weekly, as needed.
- Greasing the bearings on the secondary transfer pump (T-4) motor week

#### 5.7.2.2.2 Bag Filter Vessels

As part of the routine maintenance of the bag filter system, the pressure differential across the bag filters vessel will be checked daily. PWPO will replace filter bags when the pressure differential across a vessel is approximately 15 pounds per square inch or higher. The vessels use standard #2 bag filters available from a variety of manufacturers.

When changing bag filters, the vessel will be isolated from flow by closing the valves before and after the vessel. This prevents water from being pumped into the vessel during change out.

### 5.7.2.3 Annual Inspection and Preventative Maintenance

#### 5.7.2.3.1 Transfer Pumps

Annual preventative maintenance of the transfer pumps will consist of the following:

- Inspecting and replacing bearings
- Inspecting and servicing impellers

#### 5.7.2.3.2 Surge Tank

As part of the annual inspection, the surge tank will be pumped out and inspected. Solids that have accumulated in the tank will be removed and properly disposed of, and the condition of the tank observed and recorded. Significant corrosion or deterioration will be corrected as necessary. Proper operation of the floats will also be assess and repaired during the annual inspection.

#### 5.7.2.3.3 Filter Bag Vessels

As part of the annual inspection, the filter bag vessels will be inspected by first removing the filter bags. Any solids that have accumulated in the vessels will be removed and the condition of the vessels observed and recorded. Significant corrosion or deterioration will be corrected as necessary.

### 5.7.3 Alarms

If overflow from the Surge Tank occurs PWPO will notify the proper authorities as described in Sections 5.1.1 and 5.1.2.

## 5.8 Granular Activated Carbon System

This section describes the operations and maintenance requirements of the granular activated carbon (GAC) system. Manufacture's documentation on the GAC system is included in Appendix L.

### 5.8.1 Operations

The GAC system is a self-contained system and is the final treatment step. Each GAC vessel is filled with 20,000 pounds of virgin 8x30 mesh (i.e., greater than #8 mesh, less than #30 mesh) GAC to minimize head loss and fouling.

GAC has a high affinity for Penta and other organic constituents associated with the remaining historic and currently used petroleum-based wood treat chemicals and associated constituents (e.g., Penta, creosote, and diesel fuel) used at the site. The GAC units currently operate in parallel. In an effort to improve efficiency, PWPO will evaluate the usefulness of serial operation in 2012. Treated water passing through the GAC systems is discharged to Outfall 003.

### 5.8.2 Maintenance

#### 5.8.2.1 Inspection and Schedule

PWPO will routinely inspect the GAC according to the criteria and schedule shown on Table 9.

**Table 9: GAC System Inspection Criteria**

| Component | Criteria | Schedule |
|---|---|---|
| Skid Mounted GAC System | • Proper Operation<br>• Flow<br>• Leakage<br>• Pressure Differential | Daily[a] |
| Backwash Tank | • Proper Operation<br>• Flow<br>• Leakage | Daily[b] |
| Backwash Pump | • Proper Operation<br>• Flow<br>• Leakage | Daily[b] |
| Backwash Pump Discharge Valve | • Proper Operation<br>• Leakage<br>• Normally Closed | Daily[a] |
| Backwash Control Panel | • On/Off<br>• Proper Operation | Daily[a] |

[a] means every day during the rainy season as defined in Appendix D.
[b] means every day when the system is operational.

Results of the inspections will be documented on an inspection checklist included in Appendix L.

#### 5.8.2.2 Routine Maintenance

The need for actions to address routine maintenance needs will be based on the results of the routine inspections described in Table 9. In general, if a component of the GAC System requires routine maintenance as a result of the inspection, it will be carried out as soon as possible.

System blockage, inoperable pumps, visible contamination, improperly operating, dirty or leaking valves and tanks will be addressed upon discovery, regardless of whether the need was identified as a result of a routine inspection or casual observation by PWPO staff while performing other work duties.

#### 5.8.2.3 Backwashing

The GAC system is a self-contained system equipped with piping and valves that allow the system to be configured for manual backwash. As part of the routine inspection of the GAC system, the pressure differential across the GAC vessels will be recorded daily. Backwashing will be required when the pressure drop across a GAC vessel increases by 5 to 10 pounds per square inch (psi) during an adsorption cycle (per manufacture's recommendation, Appendix L).

Backwashing is performed with treated GAC effluent stored in the backwash tank. Water is held in the backwash tank until the GAC system requires backwashing. Backwashing will be performed following the procedures established in Appendix L for the system. Backwash waters are transferred to the 500,000 gallon storage tank and routed through the entire treatment train.

#### 5.8.2.4 Monitoring GAC Breakthrough

During operation, influent and effluent water samples will be collected from the GAC system and analyzed for Penta. These samples will be collected 2 weeks after PWPO collects the monthly NPDES sample from Outfall 003, effectively providing data every two weeks. When Penta is detected in either the GAC system or NPDES monthly sample, PWPO will begin collecting and analyzing GAC system samples weekly (with the exception of the week the monthly NPDES samples are collected) to monitor breakthrough. At this point, sampling will be effectively collected weekly. Breakthrough is the point when the primary GAC vessel is no longer effectively removing organic contaminants and indicates when the GAC needs to be replaced. When a Penta concentration of 7 micrograms per liter is detected in the effluent (approximately ½ of the allowable monthly average) new carbon will be ordered to replace the existing GAC.

Monitoring the effluent in this manner will help validate the earlier design assumption that Penta influent concentrations average 0.250 ppm as assumed in the draft SWTS O&M Manual (MFA August 25, 2000) and also help operate the GAC system efficiently.

#### 5.8.2.5 GAC Disposal

Spent GAC will be removed and either transported to a regeneration facility or placed in containers for disposal by PWPO. Whether or not the GAC can be regenerated, or must be disposed of as a solid or hazardous waste will depend on waste characterization completed by PWPO. Waste characterization will be completed after the GAC is removed from the vessel.

#### 5.8.2.6 Annual Inspection and Preventative Maintenance

During change out of GAC, the interior to the GAC vessels will be observed and noted. Significant corrosion or deterioration will be corrected as necessary. Unlike the annual inspection for most SWTS components, which occur in the summer, the GAC vessel annual inspection will occur at the time the GAC is replaced.

# 6 Corrective Actions, Recordkeeping and Reporting

## 6.1 Corrective Actions

Corrective actions may be necessary as a result of routine or annual inspection. If needed, PWPO will document the need for the corrective action, date of discovery, the actions taken, and the date the action was taken on the corrective action form and log presented in Appendix F. Corrective actions will also be reported in the Annual Environmental Audit Report.

## 6.2 Revisions

Any revision(s) to the SWTS O&M Plan as a result of corrective actions will be recorded on the Review and Revisions Log also contained in Appendix M.

## 6.3 Recordkeeping

PWPO will keep the SWTS inspection reports on file at the facility. The results of the inspections will be summarized in the Annual Environmental Audit Report required by the Amendments to the Agreement.

## 6.4 Reporting

The outline for the Annual Environmental Audit Report is included in Appendix N.

# 7 REFERENCES

BCI 2011. Best Management Practices Plan prepared for Pacific Wood Preserving of Oregon by Belunes Consulting, Inc. December 6, 2011.

CH2MHill 2004. Taylor Lumber and Treating Superfund Site Feasibility Study, prepared for the US Environmental Protection Agency, by CH2MHill Revised December 2004.

CH2MHill 2006. Stormwater Treatment System Evaluation, Taylor Lumber and Treating Superfund Site, prepared for US Environmental Protection Agency, by CH2MHill June 14, 2006.

CH2MHill 2009. Taylor Lumber and Treating Superfund Site Operations and Maintenance Plan prepared for EPA by CH2MHill October 2009.

EMCON 1995. Storm Water Pollution Control Plan prepared for Taylor Lumber and Treating Inc., prepared by EMCON, August 21, 1995.

MFA 1997. Interim Corrective Action Measures Stormwater Treatment Plan prepared for Taylor Lumber and Treating Inc., prepared by Maul Foster & Alongi, Inc., October 1, 1997.

Maul Foster 2000a. Surface Water Runoff Inspection and Maintenance Plan prepared for the Taylor Lumber and Treating Inc., prepared by Maul Foster & Alongi, Inc., March 29, 2000.

MFA 2000b. Stormwater Treatment System Phase 1 and Phase 2 prepared for Taylor Lumber and Treating, Inc. by Maul Foster & Alongi, Inc., June 14, 2000.

MFA 2000c. Draft Storm Water Treatment System Operations and Maintenance Manual (O&M Manual) prepared for Taylor Lumber and Treating, Inc. by Maul Foster & Alongi, Inc., August 25, 2000.

Maul Foster 2009. Spill Prevention Control and Countermeasure Plan prepared for Pacific Wood Preserving of Oregon, Inc., prepared by Maul Foster & Alongi, Inc., November 9, 2009.

PWPO 2011a. Draft Preparedness and Prevention Plan prepared by Pacific Wood Treating of Oregon Inc. prepared by PWPO, 2011.

PWPO 2011b. Contingency Plan And Emergency Procedures prepared by PWPO, June 2011.

PWPO 2011c. Drippage Management Contingency Plan prepared by PWPO, April 2011.

# Figures

## Storm Water Treatment System Operations and Maintenance Plan

PWPO Sheridan, OR. Facility

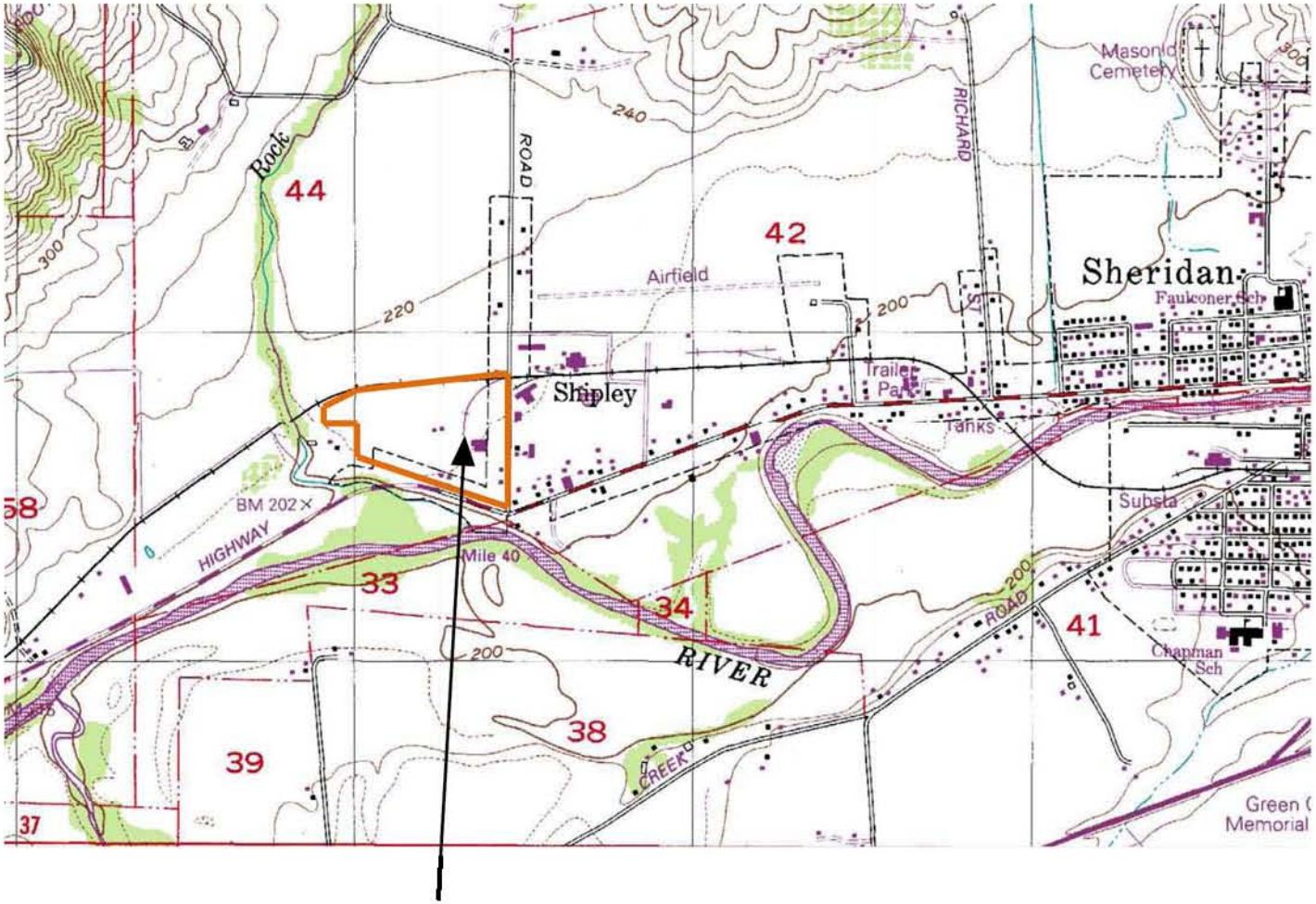


Figure 1

Facility Location

SWTS OMP

Pacific Wood Preserving of Oregon

N

Not To Scale


T

Figure 2

Site Layout

SWTS OMP

Pacific Wood Preserving of Oregon

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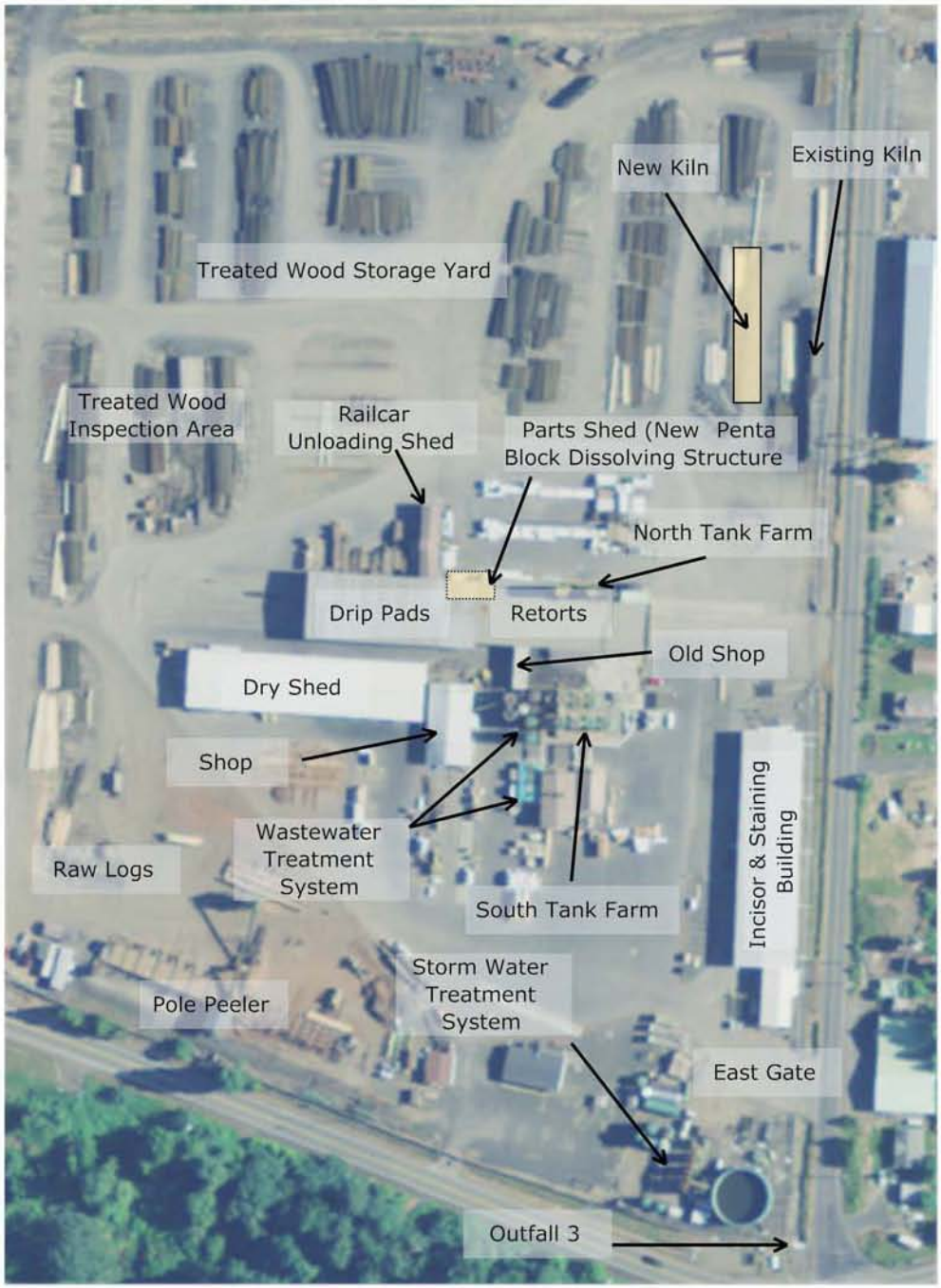
Not To Scale




# Figure 3

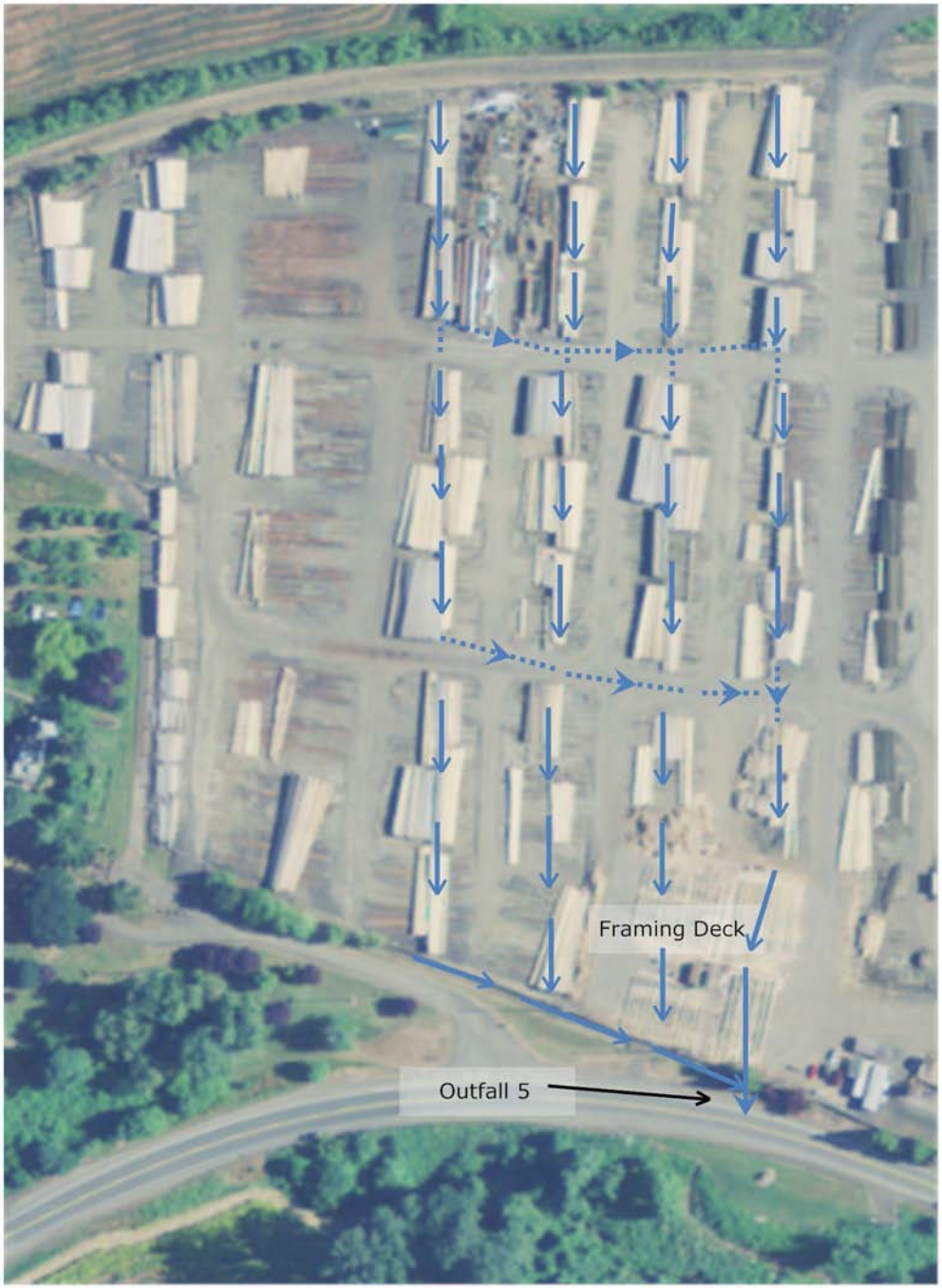
## Treatment Plant Features

SWTS OMP

Pacific Wood Preserving of Oregon

N

Not To Scale




# Figure 4

## White Pole Storage Yard Features

SWTS OMP

Pacific Wood Preserving of Oregon

Legend

Buried SW Conveyance

Open SW Drainage Ditch

N

Not To Scale

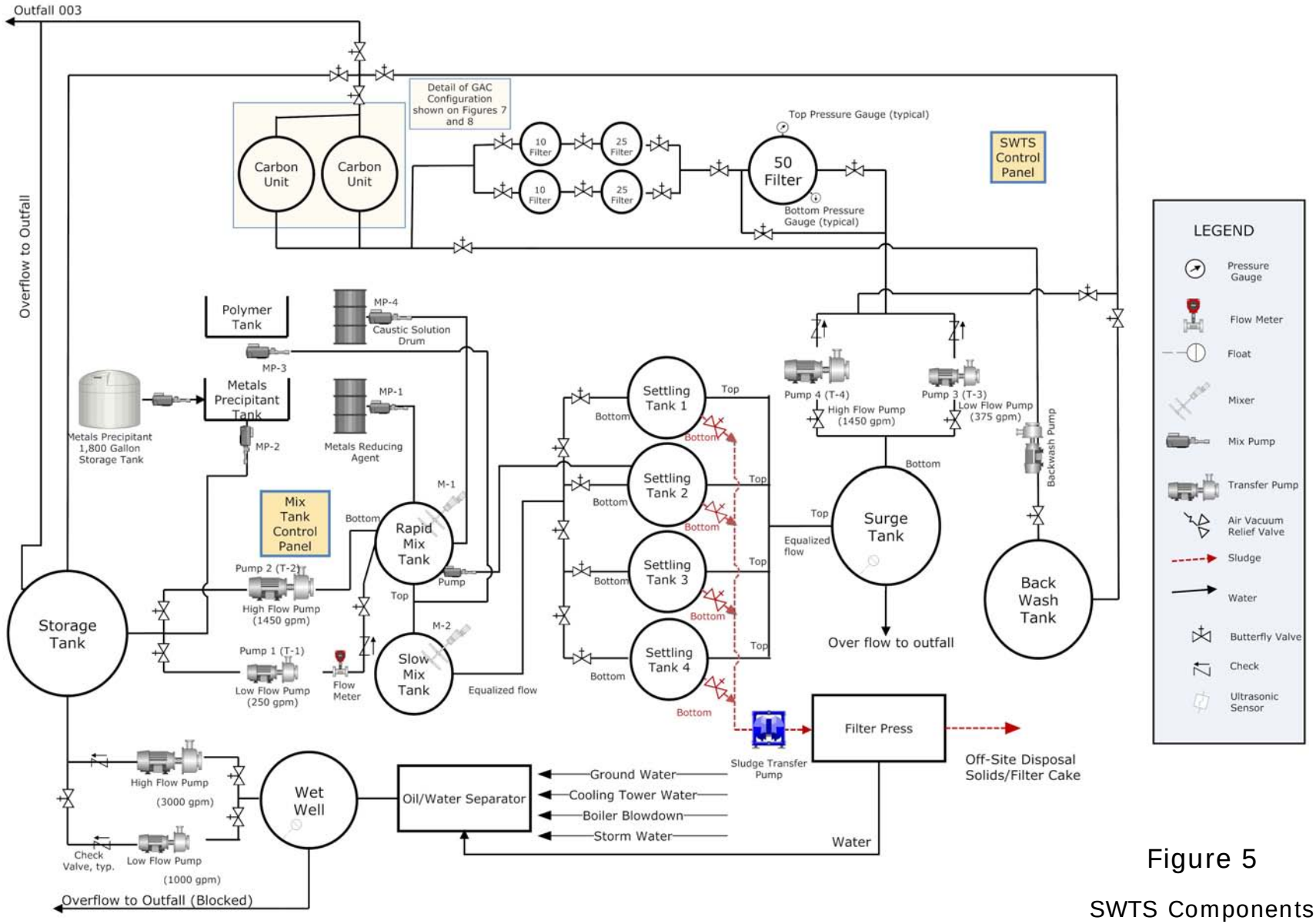



Figure 5

SWTS Components

SWTS OMP

Pacific Wood Preserving of Oregon


# Figure 6

## Conveyance System Features

BMP Plan

Pacific Wood
Preserving of Oregon

Legend

- French Drain
- Open Drainage Ditch
- Buried Drainage Ditch
- Catch Basin
- French Drain Clean out
- Trench Drain
- Manhole

N

Not To Scale

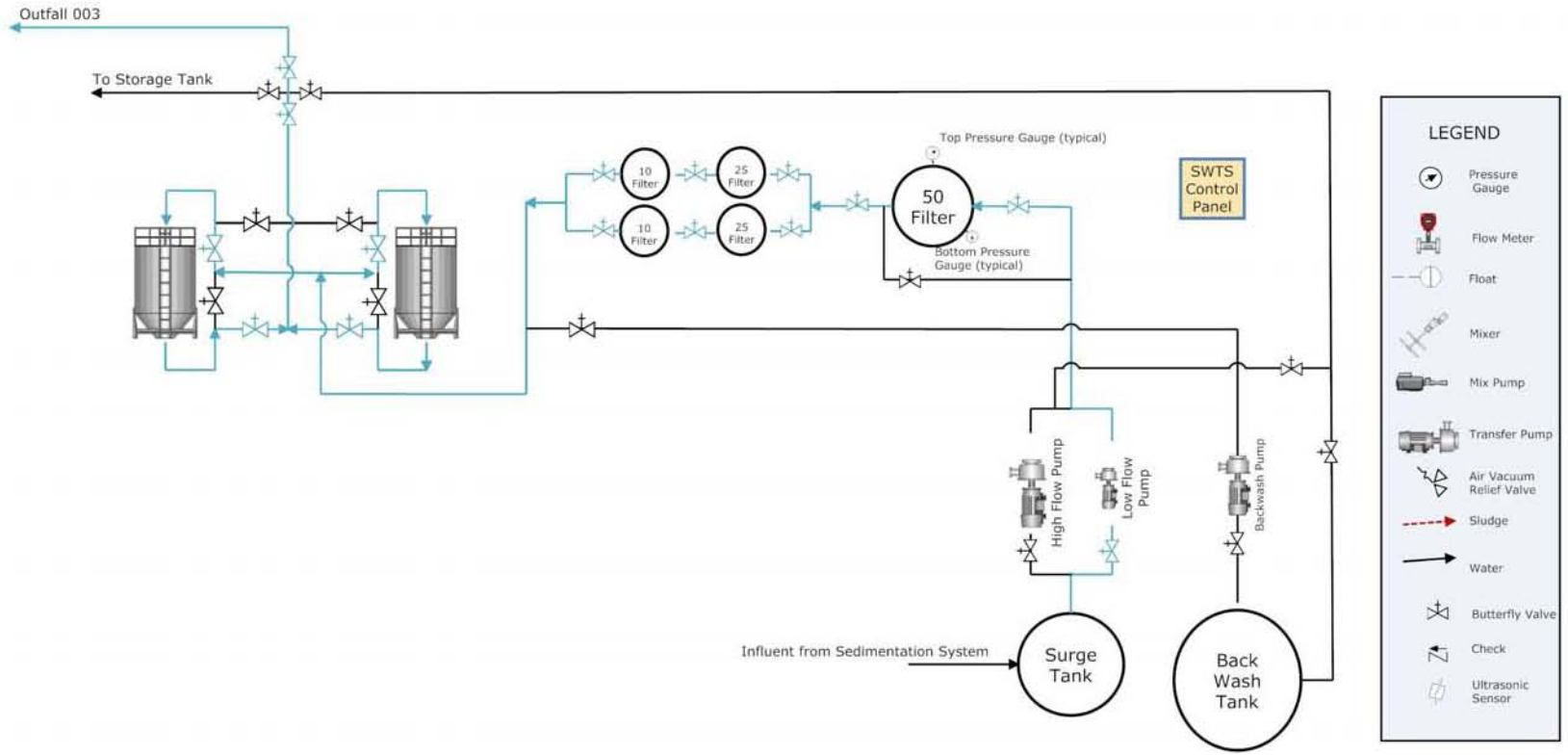



Figure 7

Normal Flow Through GAC

SWTS OMP

Pacific Wood Preserving of Oregon

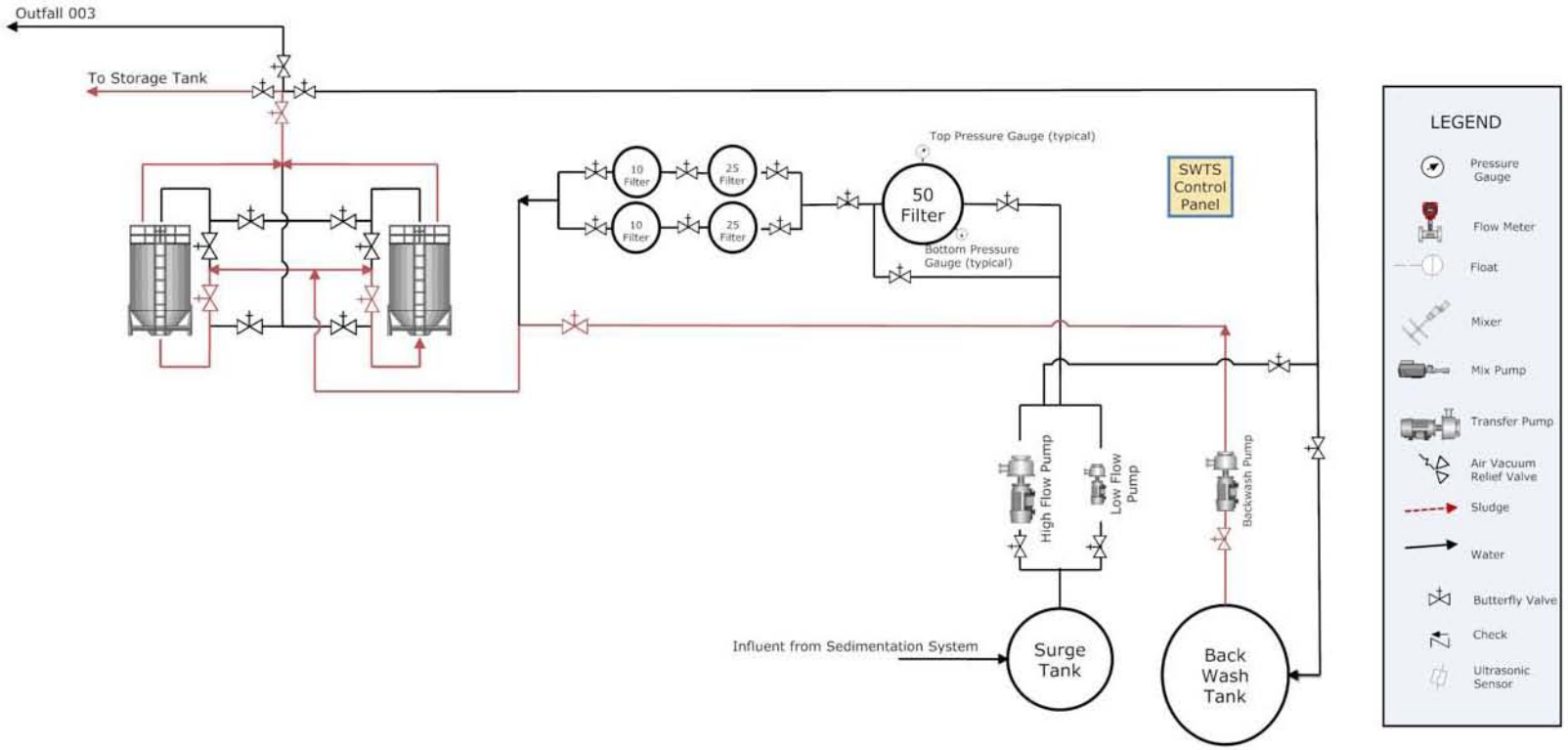



Figure 8

Backwash Flow Through GAC

SWTS OMP

Pacific Wood Preserving of Oregon

# Appendix A

# NPDES Permit

## Storm Water Treatment System Operations and Maintenance Plan

PWPO Sheridan, OR. Facility

**MODIFICATION**
This Modification Shall be Attached to and Made a Part of Permit #101267

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**
**WASTE DISCHARGE PERMIT**
Department of Environmental Quality
Western Region - Salem Office
750 Front St. NE, Suite 120, Salem, OR 97301-1039
Telephone: (503) 378-8240

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

**ISSUED TO:**

Pacific Wood Preserving of Oregon, Inc.
PO Box 40
Sheridan OR 97378

**SOURCES COVERED BY THIS PERMIT:**

| Type of Wastewater | Outfall Number | Outfall Location |
|---|---|---|
| Treated storm water runoff, treated extracted groundwater, boiler blowdown | 003 | South Yamhill River RM 38.9 |
| Storm water runoff | 005 | Rock Creek RM 0.1 |

**FACILITY TYPE AND LOCATION:**

Wood Preserving
22125 Rock Creek Road
Sheridan, OR 97378

**RECEIVING STREAM INFORMATION:**

Basin: Willamette
Sub-Basin: Yamhill
Stream: South Yamhill
LLID: 1231445452258-38.9-D
County: Yamhill

**EPA REFERENCE NO: OR002972-6**

This permit was originally issued on December 29, 2004 in response to Application No. 990062 received July 30, 1999. This modification is in accordance with OAR 340-045-0055. This permit is issued based on the land use findings in the permit record.

Mark E Hamlin
for John J. Rusciano, Water Quality Manager
Western Region North

July 31, 2008
Date

**ADDENDUM NO. 1**

**Modification #1:** NPDES Permit No. 101267, Face Page, Outfall Number 003, Type of Wastewater is modified to add "cooling tower blowdown".

**Modification #2:** NPDES Permit No. 101267, Schedule B, is modified to add temperature monitoring as Schedule B, Condition 1.c. – Outfall 003. The added modified Condition 1.c. shall read as follows:

c. Treated Effluent - Outfall 003 (May 1st through October 31st) (See Note 5)

| Item or Parameter | Minimum Frequency | Type of Sample |
|---|---|---|
| Temperature | Weekly | Measurement |

Note 5 – Sampling is required only during weeks when discharging from Outfall 003.

## INTRODUCTION

Pacific Wood Preserving of Oregon owns and operates a pressure-treated wood facility approximately one mile west of Sheridan, Oregon near the South Yamhill River on Rock Creek Road. The facility occupies approximately 34 acres, with wood treating operations confined to the central area of the site and the remainder used for raw lumber and finished product storage. The facility discharges treated wastewater through Outfall 003 and stormwater through Outfall 005 into the South Yamhill River at River Mile 38.9 and Rock Creek at River Mile 0.1, respectively, in accordance with National Pollutant Discharge Elimination System (NPDES) permit number 101267. The permit for the facility was issued on December 29, 2004 and will expire on November 30, 2009.

The Department received a request for modification on May 29, 2008. The permittee has requested a modification to the face page of the permit to allow cooling tower blowdown as an allowed wastewater type. The Department proposes to modify the permit to allow discharge of this wastewater. In order to ensure there is no reasonable potential for the facility's discharge to cause or contribute to a water quality standard violation, the Department proposes to add effluent temperature monitoring to Schedule B of the permit.

This permit evaluation report describes the basis and methodology used in developing the permit modification.

## PERMIT CHANGES

**Face Page Wastewater Type**

The permittee has requested that "cooling tower blowdown" be added to the type of wastewaters allowed in the facility's NPDES permit. On the basis that the company has made facility improvements by removing an outdated cooling pond and installed a cooling tower, the permit should be changed to add "cooling tower blowdown" to the type of wastewater allowed in the permitted discharge. The primary source of the facility's effluent is storm water, which is typically cold and is not warmed during treatment.

**Temperature Monitoring**

On May 12, 2008, staff from the Department of Environmental Quality (Department) made a site visit to the Pacific Wood Preserving of Oregon facility to consider the addition of cooling tower blowdown to the plant discharge. The feedwater that enters the cooling tower and cooling tower internal structure flow were measured for temperature. The feedwater was measured to be 53.5°F and the internal structure flow was measured to be 43.5°F. The planned addition of the cooling tower blowdown water to the facility's effluent discharge cannot violate the basin's temperature standard.

Water temperature affects the biological cycles of aquatic species and is a critical factor in maintaining and restoring healthy salmonid populations throughout the state. It is the policy of the Environmental Quality Commission (EQC) to protect aquatic ecosystems from adverse temperature changes caused by anthropogenic activities. The purpose of

the temperature criteria listed in OAR 340-041-0028 is to protect designated beneficial uses that are temperature sensitive, including salmonids in waters of the State.

The Department utilizes Fish Use Designation and Salmon and Steelhead Spawning Use Designations maps to identify applicable temperature criteria for each basin. The Willamette Basin maps are contained in OAR 340-041, Figures 340A and 340B, respectively. According to the approved use designation maps, salmon and trout rearing and migration is a designated use of the South Yamhill River year-round. During this period, the applicable numeric temperature criterion is 18°C. This section of the South Yamhill is not designated for spawning use.

The Department's List of Water Quality Limited Water Bodies (also called the 303(d) List) indicates much of the Willamette Basin is water quality limited for temperature from April 1 through October 31 (during both the spawning period and rearing periods). The South Yamhill River (River Miles 18.1 - 42.6) is listed for temperature for salmonid fish rearing (17.8°C) in the summer.

It is necessary to analyze whether the discharge would cause or contribute to violations of the basin's temperature standard or not. The facility intermittently discharges from October through March because the discharge is dependent on rainfall. Since the facility is not generally discharging during the months the South Yamhill is limited for temperature, it is most likely that the discharge would not contribute to violations of the basin's temperature standard. During the May 12, 2008, Department visit to the facility, the cooling tower blowdown was measured to be less than 12°C and the facility was not discharging at the time. During periods when there is a discharge, the blowdown water should be even cooler. During periods that the blowdown water is warmer, there would be no discharge at this time. At all times, the blowdown water will be diluted and mixed with other wastewaters before discharge.

In order to ensure there is no reasonable potential for the facility's discharge to cause or contribute to a water quality standard violation, temperature monitoring of the effluent was added to Schedule B of the permit. A new note was also added to Schedule B pertaining to the frequency of sampling for the newly added monitoring parameter. The new note 5 states that, "Sampling is required only during weeks when discharging from Outfall 003."

All other permit monitoring in the current permit shall remain the same except for that noted in this permit modification.

# NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
# WASTE DISCHARGE PERMIT

Department of Environmental Quality
Western Region - Salem Office
750 Front St. NE, Suite 120, Salem, OR 97301-1039
Telephone: (503) 378-8240

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

**ISSUED TO:**

Pacific Wood Preserving of Oregon
PO Box 40
Sheridan OR 97378

**SOURCES COVERED BY THIS PERMIT:**

| Type of Wastewater | Outfall Number | Outfall Location |
|---|---|---|
| Treated storm water runoff, treated extracted groundwater, boiler blowdown | 003 | South Yamhill River RM 38.9 |
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Wood Preserving
22125 Rock Creek Road
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**RECEIVING STREAM INFORMATION:**

Basin: Willamette
Sub-Basin: Yamhill
Stream: South Yamhill
LLID: 1231445452258-38.9-D
County: Yamhill

**EPA REFERENCE NO: OR002972-6**

Issued in response to Application No. 990062 received July 30, 1999.
This permit is issued based on the land use findings in the permit record.

Michael H. Kortenhof, Western Region Water Quality Manager — December 29, 2004 Date

## PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate a wastewater collection, treatment, control and disposal system and discharge to public waters adequately treated wastewaters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:



Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct and indirect discharge to waters of the state is prohibited, including discharge to an underground injection control system.

## SCHEDULE A

1. **Waste Discharge Limitations not to be exceeded after permit issuance.**

a. Treated Effluent - Outfall 003

| Parameter | Monthly Average (µg/L) | Daily Maximum (µg/L) |
|---|---|---|
| Arsenic, Total | 48 | 850 |
| Copper | 12 | 18 |
| Zinc | 110 | 120 |
| Pentachlorophenol | 13 | 20 |
| pH | Shall be within the range of 6.0 – 9.0 | |

b. Storm Water Outfall 005

| Parameter | Limitations |
|---|---|
| Oil & Grease | Shall no exceed 10 mg/L |
| pH | Shall be within the range of 6.0 – 9.0 |
| Floating Solids | No visible discharge permitted |
| Debris* | No discharge permitted |

* Debris is defined as anything that will be retained by a 5 mesh screen.

2. Except as provided for in OAR 340-045-0080, no wastes shall be discharged and no activities shall be conducted which violate Water Quality Standards as adopted in OAR 340-041-0445 except in the following defined mixing zone:

Outfall 003:
The mixing zone shall not extend more than 100 feet downstream from the outfall location and 10 feet out from the shoreline. The zone if initial dilution shall not extend more than 10 feet downstream and 10 feet out from the shoreline.

Outfall 005:
The mixing zone shall not exceed that portion of the South Yamhill River within 15 feet from the point of entry of the discharges.

## SCHEDULE B

1. **Minimum Monitoring and Reporting Requirements to be met after permit issuance** (unless otherwise approved in writing by the Department).

The permittee shall monitor the parameters as specified below at the locations indicated. The laboratory used by the permittee to analyze samples shall have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis and cannot be re-analyzed, then the results shall be included in the report, but not used in calculations required by this permit. When the permittee cannot re-analyze the existing sample, then they shall re-sample in a timely manner for parameters failing the QA/QC requirements, analyze the samples, and report the results.

a. Treated Effluent - Outfall 003 (See Note 1, 4)

| Item or Parameter | Minimum Frequency | Type of Sample |
|---|---|---|
| Arsenic, Total | Quarterly (See Note 2) | Grab |
| Mercury, Total | Quarterly (See Note 2) | Grab |
| Dioxins/Furans | 2/year (See Note 3) | Grab |
| Copper, Total | Monthly | Grab |
| Zinc, Total | Monthly | Grab |
| Pentachlorophenol | Monthly | Grab |
| Ammonia | Quarterly | Grab |
| Boron | Quarterly | Grab |
| pH | Monthly | Grab |

b. Storm water outfall 005 (See Note 4)

| Item or Parameter | Minimum Frequency | Type of Sample |
|---|---|---|
| Oil & Grease | Quarterly | Visual Observation |
| pH | Quarterly | Grab |
| Floating Solids | Quarterly | Visual Observation |
| Debris | Quarterly | Visual Observation |

Notes:

1. Sampling is required only during months and/or quarters when discharging from the storm water treatment system.

2. Mercury monitoring must be conducted in accordance with EPA Method 1631 or according to any test procedure that the Department has authorized and approved in writing. Mercury monitoring may be discontinued after two years of sampling unless otherwise notified in writing by the Department. Arsenic monitoring must be conducted in accordance with EPA Method 1632 or according to any test procedure that the Department has authorized and approved in writing.

3. Dixon/Furan monitoring must be conducted in accordance with EPA Method 1613. All dioxin and furan congener results of this test shall be reported. Two effluent samples shall be collected within one year of permit issuance space at least thirty days apart. No additional sampling shall be required unless notified in writing by the Department.

4. Quarterly sampling periods are defined as January-March, April-June, July-September, and October – December. During any sampling period that no discharge occurs from the storm water treatment system into outfall 003 or any

quarter that does not produce enough runoff to adequately collect a sample in outfall 005, no sampling is necessary in the respective outfall.

2. **Reporting Procedures**

a. Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the appropriate Department office by the 15th day of the following month.

b. For compliance, the analytical results below the level of detection should be reported as Not Detected and the detection limit reported next to it.

## SCHEDULE D

**Special Conditions**

1. This permit authorizes the discharge of storm water, boiler blowdown, and extracted groundwater only. It does not authorize the discharge of process waters. Discharge of boiler blowdown is limited to when the storm water system is in operation and treating storm water to insure there is adequate dilution.

2. The permittee shall implement a contingency plan for prevention and handling of spills and unplanned discharges and the plan shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good in-plant control and quick and proper action in the event of a spill or accident.

3. An environmental supervisor shall be designated to coordinate and carry out all necessary functions related to maintenance and operation of waste collection, treatment, and disposal facilities. This person must have access to all information pertaining to the generation of wastes in the various process areas.

4. Each batch of treated wood must be processed so as to minimize drippage and rainwater leaching if it is stored in the open. Drippage prevention can include vacuum drying in the retort and allowing the treated wood to stand on the drip pad until the preservative has dried and set into the wood.

5. All freshly treated wood must be kept on the drip pad until visible drippage has ceased, pursuant to the requirements of 40 CFR 264.573(k).

6. Transfer of chemicals and storage of full and empty chemical containers shall be conducted on a containment pad such that spillage or contaminated runoff is collected and returned to the plant's collection and recirculation system. In areas where it may be cost prohibitive or impractical to construct containment pads, the facility shall insure that it is strictly employing its spill contingency plan to prevent or minimize any spills and to respond immediately if a spill occurs. The Department shall be notified per Schedule F, Section D.5 of any spills that occur.

7. The drip pad and containment pads shall be maintained free of cracks, corrosion or other deterioration that could cause hazardous waste to leak from the pads pursuant to requirements of 40 CFR 264.573(c)

8. If a condition is detected that could lead to a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery or the pad must be removed from service pursuant to requirements of 40 CFR 264.573(m).

9. The drip pad and containment pads shall be operated and maintained in a manner to prevent tracking of hazardous waste off the drip pad by personnel or equipment pursuant to requirements of 40 CFR 264.573(j).

10. Prior to constructing or modifying wastewater treatment facilities, detailed plans and specifications must be approved in writing by the Department. Minor deviations from Department approved designs shall not require Department approval if these deviations are deemed necessary by the permittee to facilitate proper construction or operation of the treatment system.

11. Prior to the inclusion of extracted groundwater from additional wells into the treatment system, permittee shall notify the Department and receive written authorization.

12. Permittee shall notify the Department and receive approval prior to the use of additional wood treating chemicals.

## NPDES GENERAL CONDITIONS
## (SCHEDULE F)

### SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations

Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

In addition, a person who unlawfully pollutes water as specified in ORS 468.943 or ORS 468.946 is subject to criminal prosecution.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee shall correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application shall be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;

b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

## SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

(1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.

(2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

(1) Bypass is prohibited unless:

(a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The permittee submitted notices and requests as required under General Condition B.3.c.

(2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior written notice, if possible at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the causes(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and

(4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event

For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter shall be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definitions

(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.

(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.

(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:

(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and

(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee shall take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

## SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the

calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency shall also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value shall be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

a. The date, exact place, time and methods of sampling or measurements;

b. The individual(s) who performed the sampling or measurements;

c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and

d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

## SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall comply with Oregon Administrative Rules (OAR) 340, Division 52, "Review of Plans and Specifications". Except where exempted under OAR 340-52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers shall be commenced until the plans and specifications are submitted to and approved by the Department. The permittee shall give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office shall be called. Outside of normal business hours, the Department shall be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission shall contain:

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times;

c. The estimated time noncompliance is expected to continue if it has not been corrected;

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and

e. Public notification steps taken, pursuant to General Condition B.7.

The following shall be included as information which must be reported within 24 hours under this paragraph:

a. Any unanticipated bypass which exceeds any effluent limitation in this permit.

b. Any upset which exceeds any effluent limitation in this permit.

c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports shall contain:

a. A description of the noncompliance and its cause;

b. The period of noncompliance, including exact dates and times;

c. The estimated time noncompliance is expected to continue if it has not been corrected; and

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Information

A person who supplies the Department with false information, or omits material or required information, as specified in ORS 468.953 is subject to criminal prosecution.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**

The permittee must provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**

The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

(1) One hundred micrograms per liter (100 µg/L);

(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 µg/L);

(2) One milligram per liter (1 mg/L) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or

(4) The level established by the Department in accordance with 40 CFR 122.44(f).

## SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/L means milligrams per liter.
4. kg means kilograms.
5. $m^3/d$ means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-41.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

# Attachment C
# Drainage Area Calculations and Figures

Drainage Calculations
4/4/06 M. Niemet

Total area of site currently captured by SWTS:

$$A_T = 7.5 + 2.3 + 11.4 = 21.2 \text{ acres}^*$$

* From Figure 1 Phase 1 & 2

Total paved area currently captured by SWTS:

barrier wall, arsenic zone, misc.

$$A_p = 4.6 + 2.0 + 1.5 = 8.1 \text{ acres}$$

Amount of flow through the SWTS produced per inch of rainfall in 2005 (neglects boiler blowdown & extracted groundwater)

$$\frac{Q}{R} = 356{,}000 \frac{\text{gallons}}{\text{inch}}$$

Area of impervious surface required to produce this flow per inch of rainfall:

$$A_I = \left| \frac{356{,}000 \text{ gal}}{\text{in}} \right| \left| \frac{\text{ft}^3}{7.4805 \text{ gal}} \right| \left| \frac{12 \text{ in}}{\text{ft}} \right| \left| \frac{\text{acre}}{43{,}560 \text{ ft}^2} \right| = 13.1 \text{ acres}$$

Percentage of capture area currently paved:

$$\frac{A_p}{A_T} \times 100 = \frac{8.1}{21.2} \times 100 = 38.21\%$$

Capture efficiency of total capture area:

$$\eta_T = \frac{A_I}{A_T} \times 100 = \frac{13.1}{21.2} \times 100 = 61.79\%$$

Drainage Calculations (cont.)
4/5/06 M. Niemet

Capture efficiency of unpaved area:

$$n_U = \frac{A_I - A_P}{A_T - A_P} = \frac{13.1 - 8.1}{21.2 - 8.1} = 38.17\ \%$$

($A_I$: unpaved area that acts as if impervious; $A_T - A_P$: unpaved area)

Check calculation assuming 100% capture efficiency for the paved areas:

$$A_I = A_P(1) + (A_T - A_P)n_U$$

$$13.1 = 8.1 + (21.2 - 8.1)0.3817 = 13.1 \quad \checkmark$$

What is the worst-case flow that would be produced through the SWTS, per inch of rain, if the whole capture area was paved?

$$\left(\frac{Q}{R}\right)_{max} = \left(\frac{356{,}000\ gal}{in}\right)\frac{21.2}{13.1} = 576{,}000\ \frac{gal}{in}$$

62% increase

What is the estimated flow if an additional 4.4 acres are paved — as assumed in the FS?

$$A_{I,FS} = \underbrace{8.1 + 4.4}_{\text{Paved}} + \underbrace{(21.2 - 8.1 - 4.4)0.3817}_{\text{Unpaved as impervious}}$$

$$= 12.5 + (8.7)0.3817 = 15.82 \text{ acres}$$

$$\left(\frac{Q}{R}\right)_{FS} = \left(\frac{356{,}000\ gal}{in}\right)\frac{15.82}{13.1} = 430{,}000\ \frac{gal}{in}$$

21% increase

# Attachment D
# Process and Instrument Diagram Notes


Boundary 6150 lf

| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| 1 | 5/00 | PHASE 2 | JLN | AMC | SPT | SPT |
| 0 | 2/98 | PRELIMINARY PLAN | JLN | AMC | SPT | SPT |

DATE OF ISSUE 2/98 — DWN BY JLN — DES BY A. CLARY — CHK BY S. TAYLOR — APP BY S. TAYLOR

Maul Foster & Alongi, Inc.

TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
PHASE 1 AND PHASE 2

**TREATING PLANT DRAINAGE AREAS**

DRAWING NO. 1

PROJECT NO. 8002.001.014

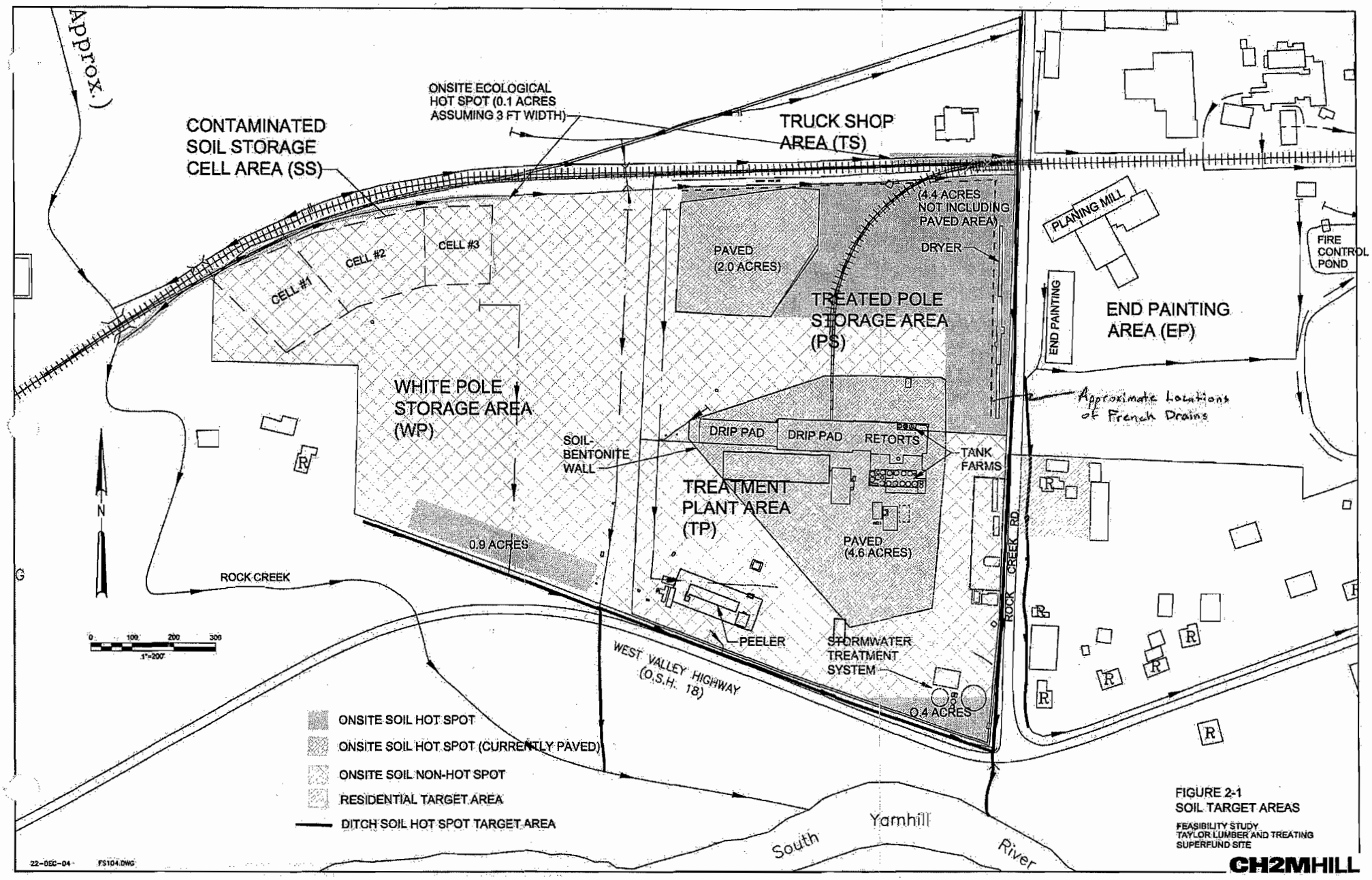
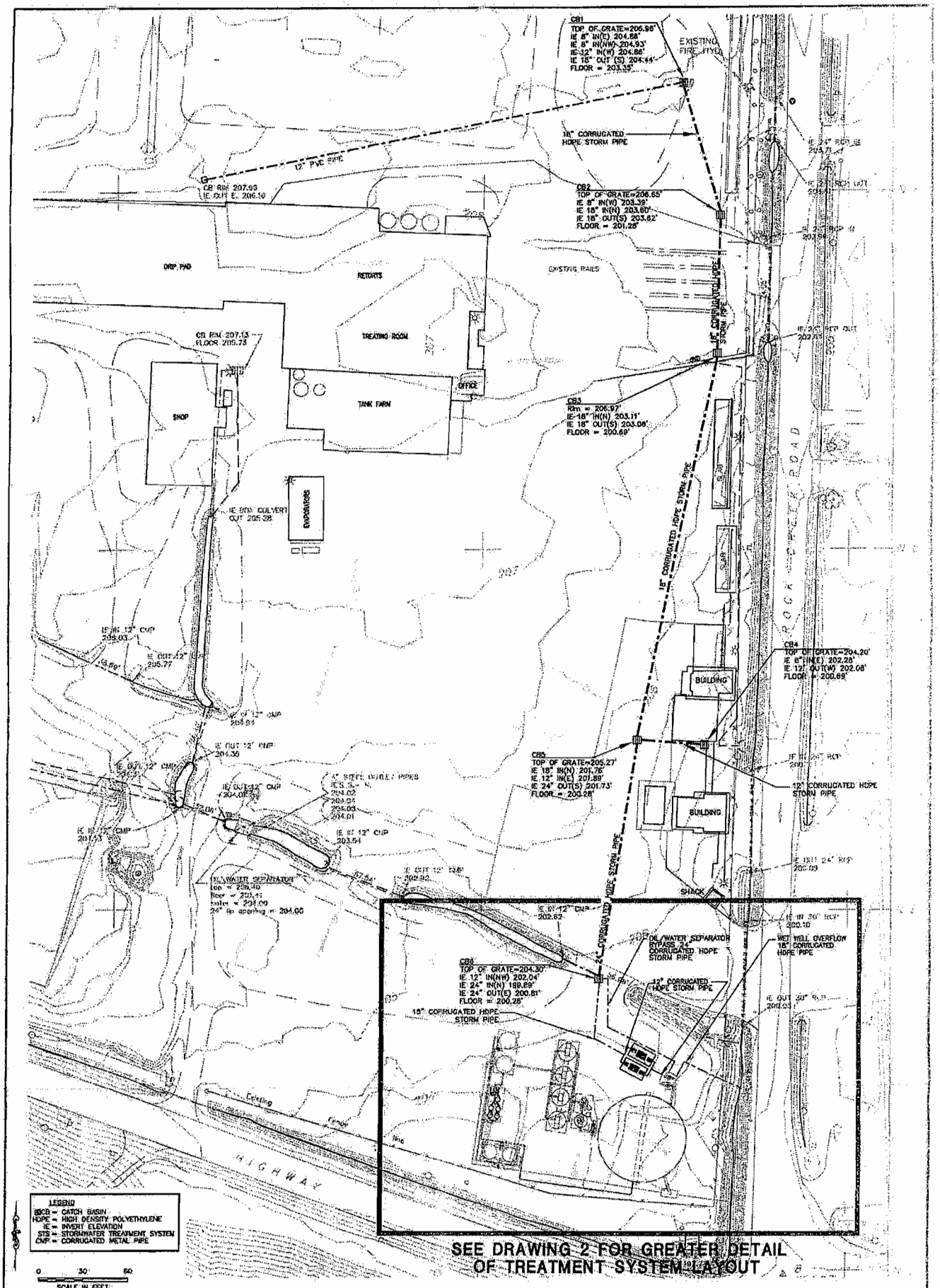



FIGURE 2-1
SOIL TARGET AREAS

FEASIBILITY STUDY
TAYLOR LUMBER AND TREATING
SUPERFUND SITE

CH2MHILL




**SEE DRAWING 2 FOR GREATER DETAIL OF TREATMENT SYSTEM LAYOUT**

| REV | DATE | DESCRIPTION | DRN BY | DES BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| 5 | 8/00 | O & M MANUAL | JLN | SPT | SPT | SPT |
| 4 | 8/00 | PHASE 2 | JLN | AWC | SPT | SPT |
| 3 | 6/00 | RESPONSE TO USEPA | JLN | AWC | SPT | SPT |
| 2 | 12/99 | ELEV. CHANGE FOR PIPE INC. | JLN | AWC | SPT | SPT |
| 1 | 12/99 | CONVEYANCE ELEV. CHANGE | JLN | AWC | SPT | SPT |
| 0 | 8/99 | PRELIMINARY PLAN | JLN | AWC | SPT | SPT |

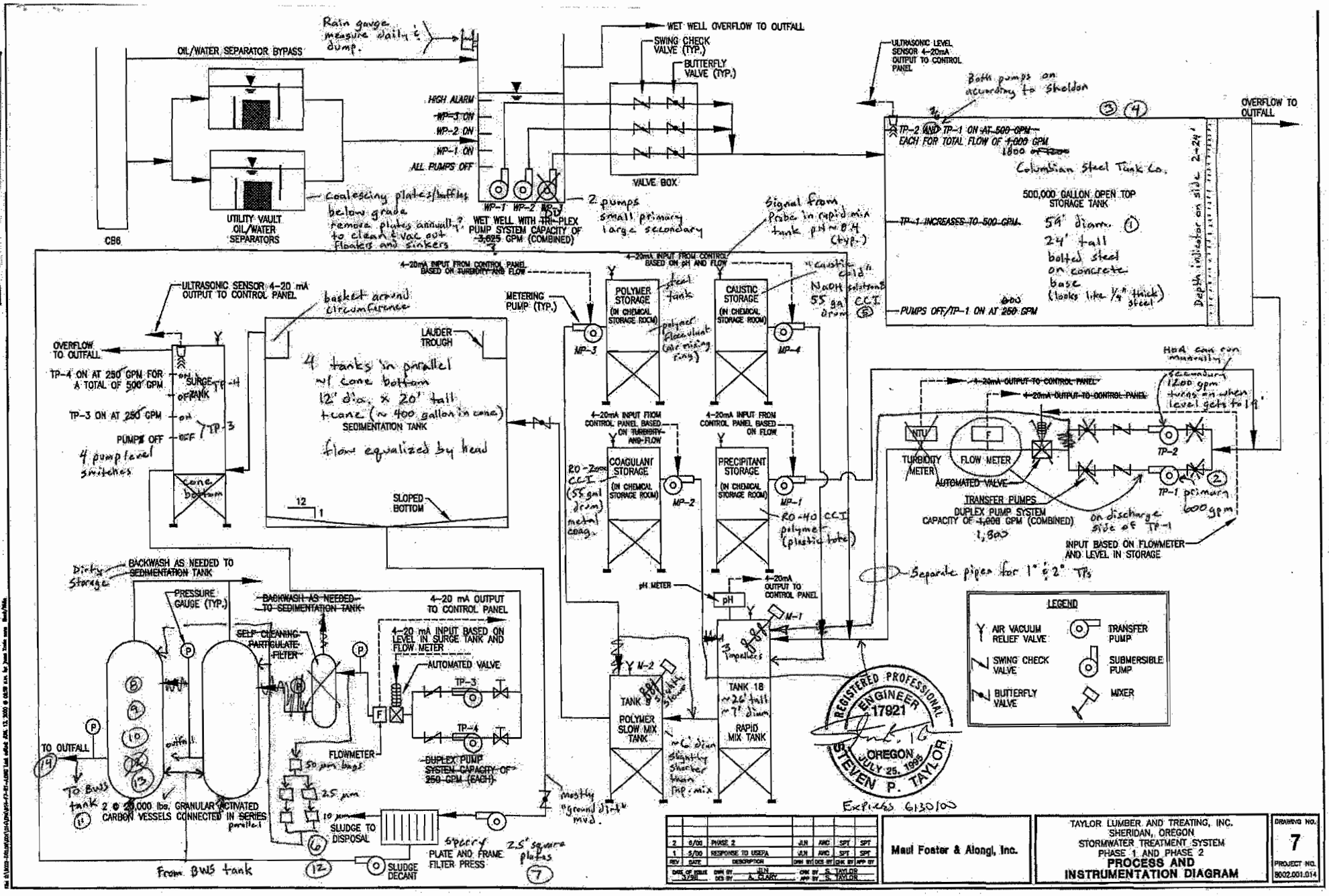
DATE OF ISSUE 8/99
DRN BY JLN
DES BY A. CLARY
CHK BY S. TAYLOR
APP BY S. TAYLOR

Maul Foster & Alongi, Inc.

TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL

**CONVEYANCE PIPING**

DRAWING NO. 1
PROJECT NO. 8002.001.014


Field notes from site visit 4/13/06 - Sheldon Stewart
Rain gauge measure daily & dump.
OIL/WATER SEPARATOR BYPASS
WET WELL OVERFLOW TO OUTFALL
SWING CHECK VALVE (TYP.)
BUTTERFLY VALVE (TYP.)
ULTRASONIC LEVEL SENSOR 4-20mA OUTPUT TO CONTROL PANEL
Both pumps on according to Sheldon
HIGH ALARM
WP-3 ON
WP-2 ON
WP-1 ON
ALL PUMPS OFF
VALVE BOX
OVERFLOW TO OUTFALL
TP-2 AND TP-1 ON AT 500 GPM EACH FOR TOTAL FLOW OF 1,000 GPM 1800
Columbian Steel Tank Co.
500,000 GALLON OPEN TOP STORAGE TANK
TP-1 INCREASES TO 500 GPM
54' diam. (1)
24' tall bolted steel on concrete base (looks like 1/4" thick steel)
Depth indicator on side 2-24'
PUMPS OFF/TP-1 ON AT 250 GPM
CB6
UTILITY VAULT OIL/WATER SEPARATORS
Coalescing plates/baffles below grade remove plates annually? to clean & vac out floaters and sinkers
WP-1 WP-2 WP-3
WET WELL WITH TRI-PLEX PUMP SYSTEM CAPACITY OF ~3,625 GPM (COMBINED)
2 pumps small primary large secondary
Signal from Probe in rapid mix tank pH ~ 8.4 (typ.)
4-20mA INPUT FROM CONTROL PANEL BASED ON TURBIDITY AND FLOW
4-20mA INPUT FROM CONTROL PANEL BASED ON pH AND FLOW
"caustic" soda NaOH solution 55 gal drum
ULTRASONIC SENSOR 4-20 mA OUTPUT TO CONTROL PANEL
basket around circumference
METERING PUMP (TYP.)
POLYMER STORAGE (IN CHEMICAL STORAGE ROOM)
steel tank
polymer flocculant (air mixing ring)
CAUSTIC STORAGE (IN CHEMICAL STORAGE ROOM)
MP-3
MP-4
OVERFLOW TO OUTFALL
TP-4 ON AT 250 GPM FOR A TOTAL OF 500 GPM
TP-3 ON AT 250 GPM
PUMPS OFF
SURGE TANK
TP-4
TP-3
4 pump level switches
cone bottom
LAUDER TROUGH
4 tanks in parallel w/ cone bottom 12' dia. x 20' tall (cone ~ 400 gallon in cone)
SEDIMENTATION TANK
flow equalized by head
12
1
SLOPED BOTTOM
4-20mA INPUT FROM CONTROL PANEL BASED ON TURBIDITY AND FLOW
4-20mA INPUT FROM CONTROL PANEL BASED ON FLOW
COAGULANT STORAGE (IN CHEMICAL STORAGE ROOM)
PRECIPITANT STORAGE (IN CHEMICAL STORAGE ROOM)
RO-200 CCI (55 gal drum) metal coag.
RO-40 CCI polymer (plastic tote)
MP-2
MP-1
Head can run manually
4-20mA OUTPUT TO CONTROL PANEL
4-20mA OUTPUT TO CONTROL PANEL
Secondary 1200 gpm turns on when level gets to 19'
NTU
TURBIDITY METER
F
FLOW METER
AUTOMATED VALVE
TP-2
TP-1 primary 600 gpm
TRANSFER PUMPS
DUPLEX PUMP SYSTEM
CAPACITY OF 1,000 GPM (COMBINED)
1,800
on discharge side of TP-1
INPUT BASED ON FLOWMETER AND LEVEL IN STORAGE
Separate pipes for 1" & 2" TPs
Dirty Storage
BACKWASH AS NEEDED TO SEDIMENTATION TANK
PRESSURE GAUGE (TYP.)
BACKWASH AS NEEDED TO SEDIMENTATION TANK
4-20 mA OUTPUT TO CONTROL PANEL
4-20 mA INPUT BASED ON LEVEL IN SURGE TANK AND FLOW METER
SELF CLEANING PARTICULATE FILTER
AUTOMATED VALVE
TP-3
TP-4
FLOWMETER
DUPLEX PUMP SYSTEM CAPACITY OF 250 GPM (EACH)
50 μm bags
25 μm
10 μm
SLUDGE TO DISPOSAL
TO OUTFALL
To BWS tank
2 @ 20,000 lbs. GRANULAR ACTIVATED CARBON VESSELS CONNECTED IN SERIES parallel
From BWS tank
SLUDGE DECANT
specify PLATE AND FRAME FILTER PRESS
25' square plates
mostly "ground dirt" mud.
pH METER
pH
4-20mA OUTPUT TO CONTROL PANEL
M-1
3 Impellers
M-2
TANK 18 POLYMER SLOW MIX TANK
TANK 18 ~26' tall ~7' diam
RAPID MIX TANK
~6' diam slightly shorter than rapid mix
LEGEND
AIR VACUUM RELIEF VALVE
SWING CHECK VALVE
BUTTERFLY VALVE
TRANSFER PUMP
SUBMERSIBLE PUMP
MIXER
REGISTERED PROFESSIONAL ENGINEER 17921 OREGON JULY 25, 1995 STEVEN P. TAYLOR
Expires 6/30/06
2 6/06 PHASE 2 JLN AWC SPT SPT
1 5/06 RESPONSE TO USEPA JLN AWC SPT SPT
Maui Foster & Alongi, Inc.
TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
PHASE 1 AND PHASE 2
PROCESS AND INSTRUMENTATION DIAGRAM
DRAWING NO. 7
PROJECT NO. 9002.001.014

Notes:

① Never cleaned out ~ 2' of silt on bottom. Low-level dump setpoint is ~ 2', outlet is even lower.

② When just primary pump running, settling tank effluent looks clear. With both pumps running effluent gets cloudy.

③ Maybe could increase height of tank (structural considerations.)

④ Roughly 46' of empty space between entrance road and concrete base of wet well. Could possibly be used for a 2nd storage tank.

⑤ Cherokee Chemical, Inc. (CCI)

⑥ 5 bag filter units w/ 12 bag filters per unit. Need to remove many bolts from the top of each unit to replace

⑦ Collect solids and press once per year during summer. Need to perform during shut-down. Need to flush solids out w/ a fire hose. Waste has become RCRA F-032 since they have added process water. - But last year they were able to use as fill onsite.

⑧ Backwash ~ every 2 weeks during heavy flow
~ every 1 month during normal flow

⑨ Run in parallel. Tried series but starts constricting flow during high flow times - even w/ fresh carbon.

⑩ Clean Environmental Concepts provides carbon

⑪ Have 3 tanks to use for BWS. Only 1 is hooked up now - enough to backwash only 1 GAC

(11 cont.) Plan to hook up other 2, so can BW both GAC, at once.

(12) When 45 psi on inlet to any of the bags change all.

(13) At most need 1½ BWS tank to get clean water after backwashing.

(14) Effluent sampling right at outfall to ditch
- some parameters monthly
- some quarterly
- some 2/yr, 1/yr

# Attachment E
# Site Visit Photos – April 3, 2006

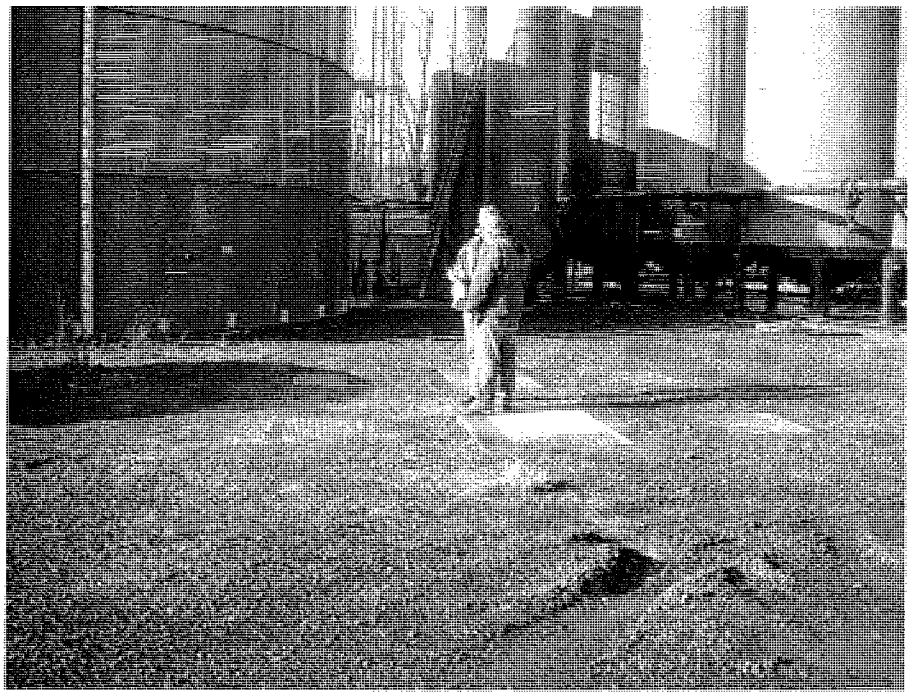


Photo 1. Standing at the oil-water separators.

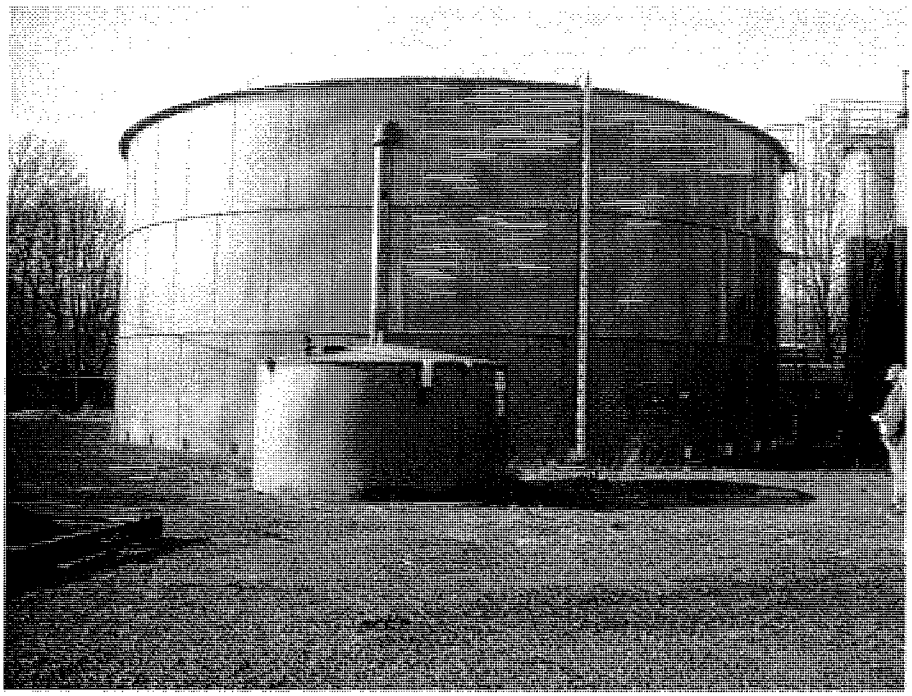


Photo 2. Wet well (foreground) and 500,000 gallon storage tank.

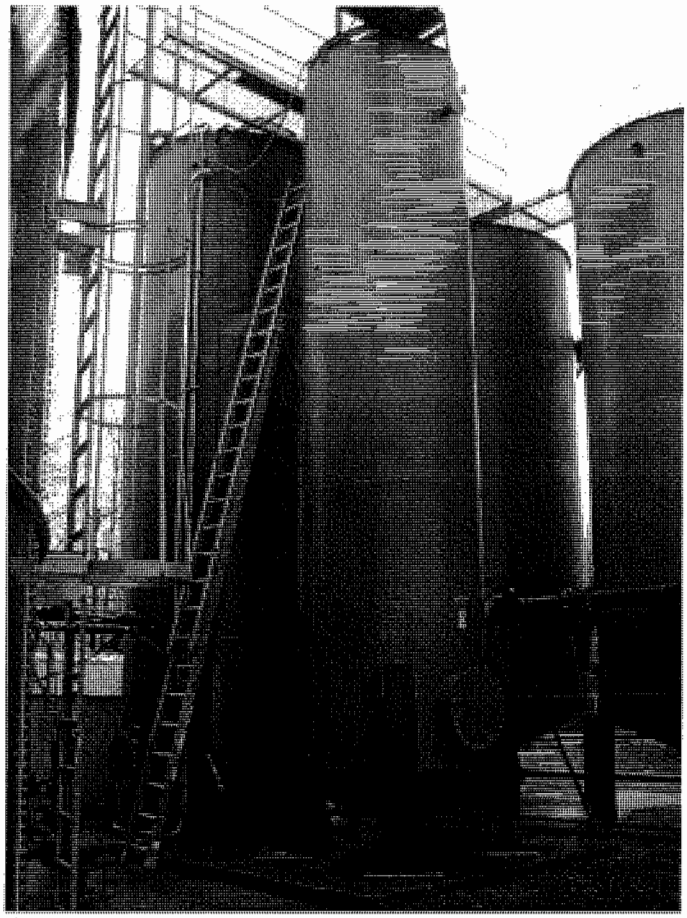


Photo 3. Rapid mix tank (foreground) and slow mix tank.

Photo 4. Sedimentation tanks.

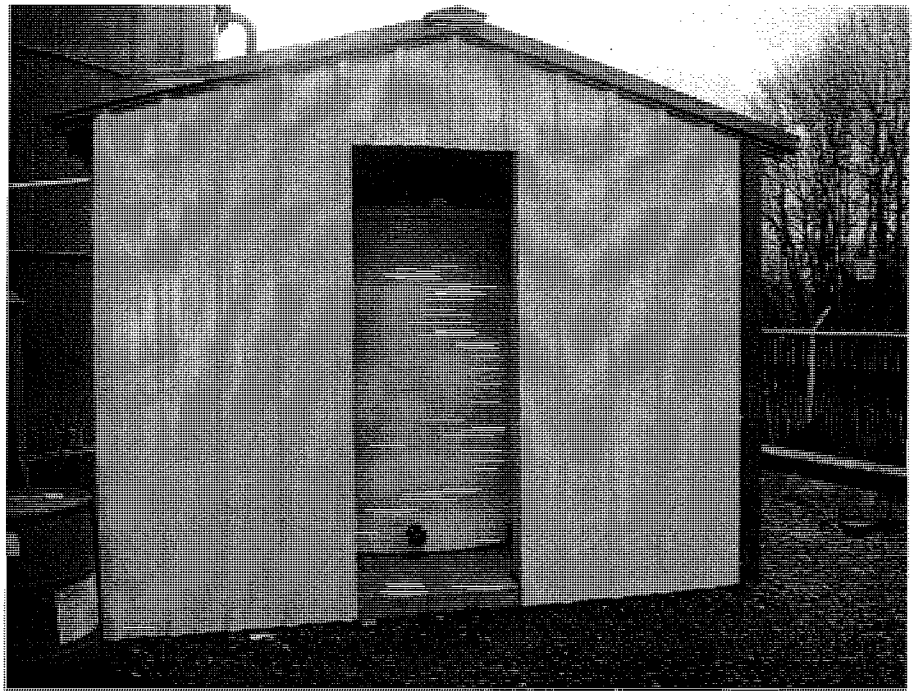


Photo 5. Outside chemical storage shed.

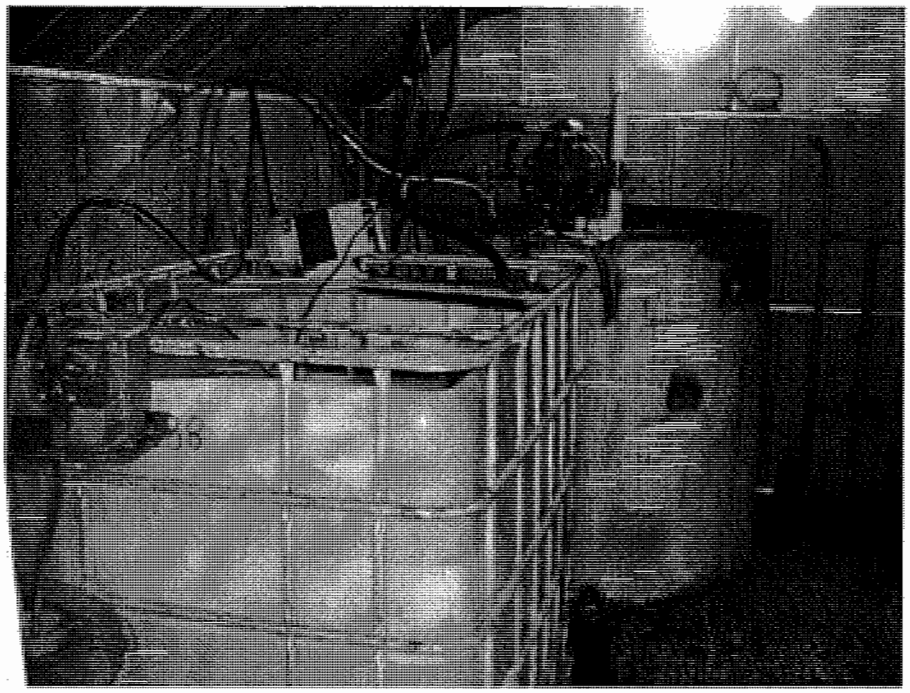


Photo 6. Inside chemical storage shed (left).

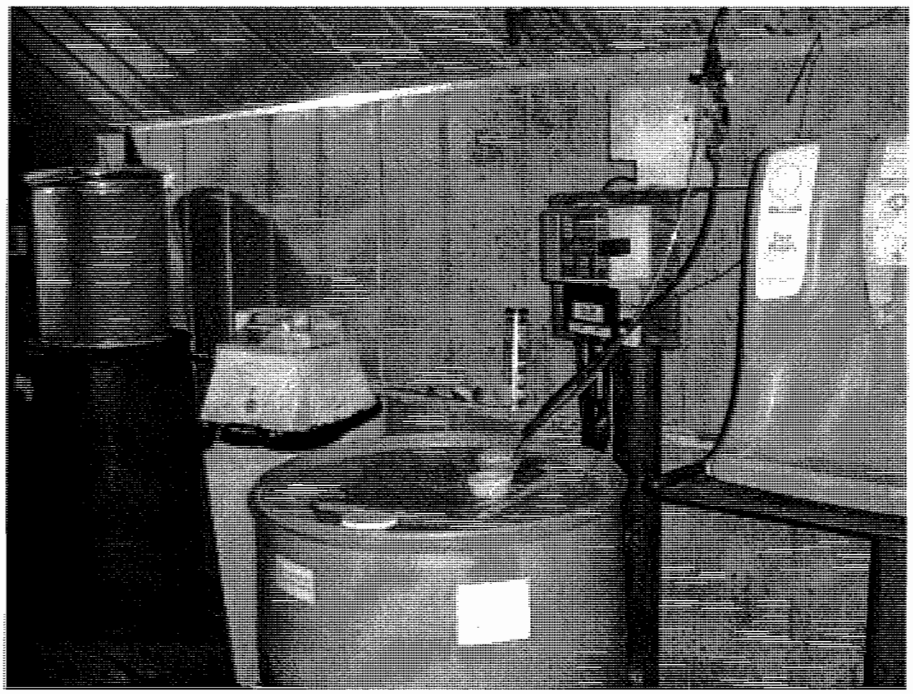


Photo 7. Inside chemical storage shed (right).

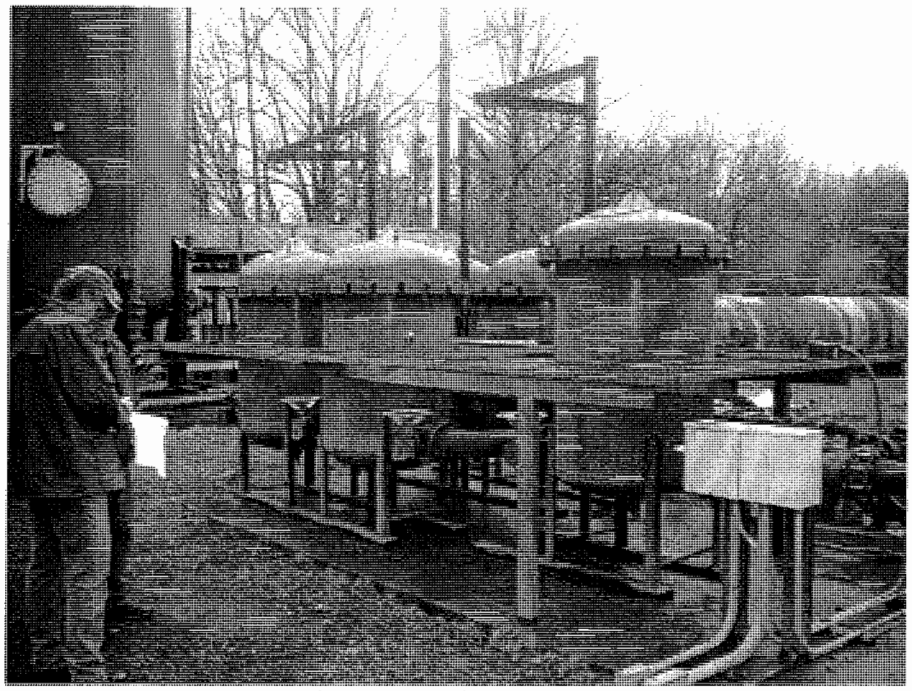


Photo 8. Bag filter vessels.

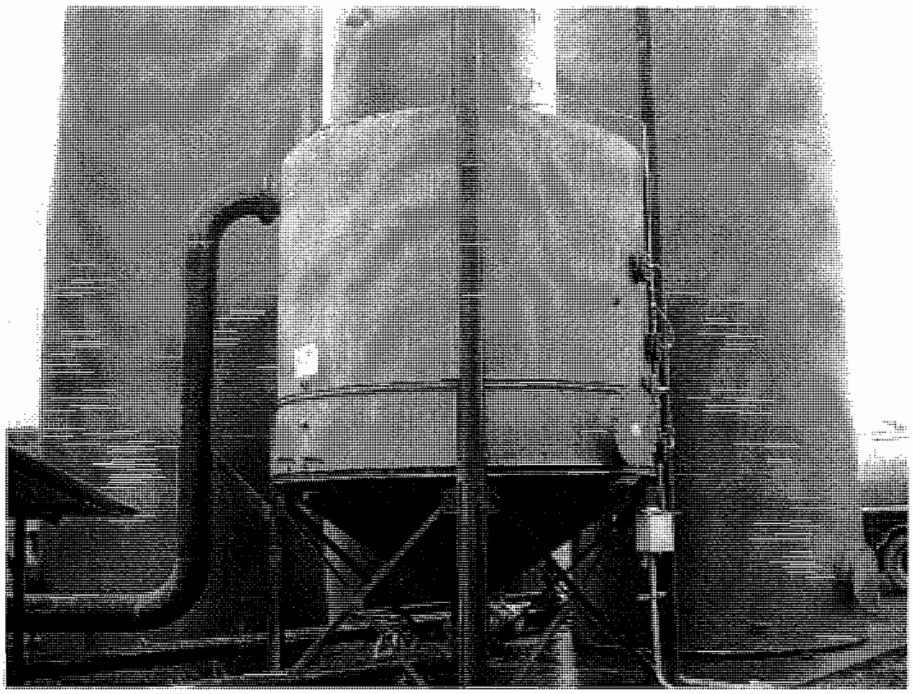


Photo 9. Surge tank (foreground) and backwash tanks. The only backwash tank currently in use is the one on the right.

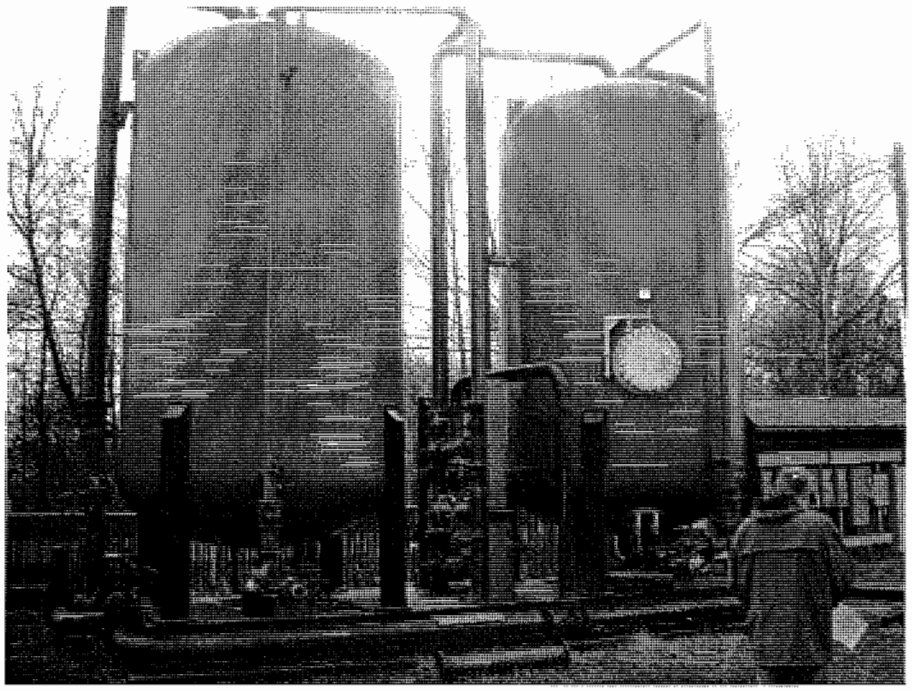


Photo 10. GAC vessels.

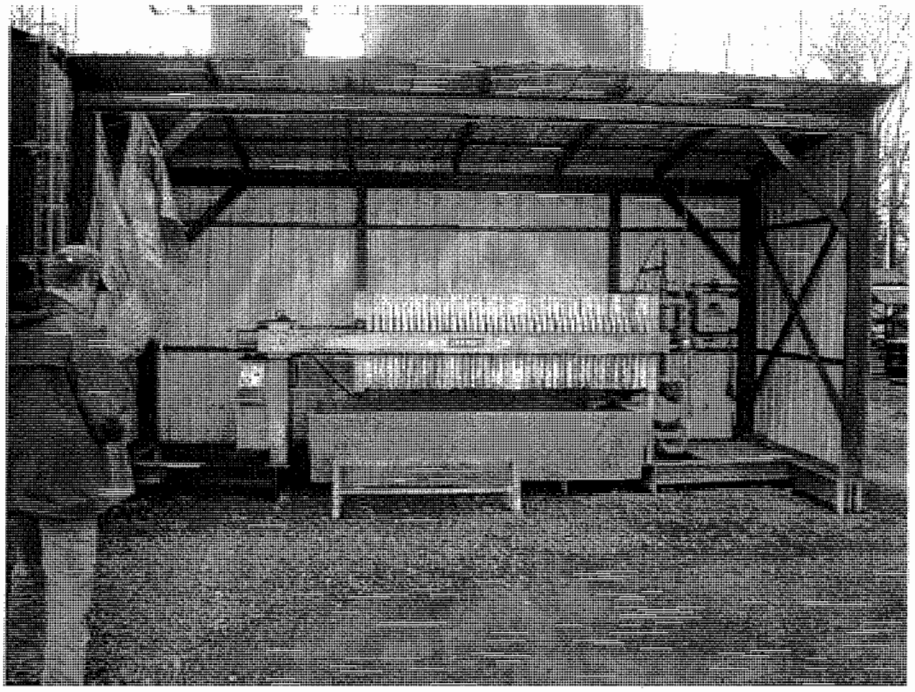


Photo 11. Plate-and-frame filter press.

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Western Region-Salem Office
750 Front St. NE, Ste. 120
Salem, OR 97301-1039
(503) 378-8240
(503) 378-3684 TTY

July 31, 2008

Sheldon Stewart
Pacific Wood Preserving Of Oregon, Inc.
PO Box 40
Sheridan, OR 97378-0040

**CERTIFIED MAIL**
**RETURN RECEIPT REQUESTED**

RE: NPDES Permit Modification Issuance
File Number: 87487
Facility: Pacific Wood Preserving Of Oregon, Inc., 22125 SW Rock Creek Rd, Sheridan
Yamhill County

Dear Mr. Stewart:

The Department has completed its review of your request for modification of National Pollutant Discharge Elimination System (NPDES) Permit number 101267 and the comments received regarding the preliminary draft permit. Your NPDES permit modification has been issued and is enclosed.

This permit will be considered the final action on permit application number 973044.

You are urged to carefully read the permit and take all possible steps to comply with conditions established to help protect Oregon's environment against pollution.

If you are dissatisfied with the conditions or limitations of this permit modification, you have 20 days to request a hearing before the Environmental Quality commission or its authorized representative. Any such request shall be made in writing to the Director and shall clearly state the grounds for the request.

Questions regarding permit, discharge monitoring reports, inspections and other technical questions may be addressed to April Graybill in the Salem Office at (503) 378-6967.

Sincerely,

Mark E Hamlin

for John J. Rusciguo
Water Quality Manager
Western Region North

JJR:jjc
Enclosure

cc: April Graybill/WQ Source File, DEQ-Salem
DMR Processing Unit, DEQ-OIS
EPA, Seattle

**MODIFICATION**
This Modification Shall be Attached to and Made a Part of Permit #101267

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**
**WASTE DISCHARGE PERMIT**
Department of Environmental Quality
Western Region - Salem Office
750 Front St. NE, Suite 120, Salem, OR 97301-1039
Telephone: (503) 378-8240

Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

**ISSUED TO:**

Pacific Wood Preserving of Oregon, Inc.
PO Box 40
Sheridan OR 97378

**SOURCES COVERED BY THIS PERMIT:**

| Type of Wastewater | Outfall Number | Outfall Location |
|---|---|---|
| Treated storm water runoff, treated extracted groundwater, boiler blowdown | 003 | South Yamhill River RM 38.9 |
| Storm water runoff | 005 | Rock Creek RM 0.1 |

**FACILITY TYPE AND LOCATION:**

Wood Preserving
22125 Rock Creek Road
Sheridan, OR 97378

**RECEIVING STREAM INFORMATION:**

Basin: Willamette
Sub-Basin: Yamhill
Stream: South Yamhill
LLID: 1231445452258-38.9-D
County: Yamhill

**EPA REFERENCE NO: OR002972-6**

This permit was originally issued on December 29, 2004 in response to Application No. 990062 received July 30, 1999. This modification is in accordance with OAR 340-045-0055. This permit is issued based on the land use findings in the permit record.

Mark E Hamlin
for John J. Ruscigno, Water Quality Manager
Western Region North

July 31, 2008
Date

## ADDENDUM NO. 1

**Modification #1:** NPDES Permit No. 101267, Face Page, Outfall Number 003, Type of Wastewater is modified to add "cooling tower blowdown".

**Modification #2:** NPDES Permit No. 101267, Schedule B, is modified to add temperature monitoring as Schedule B, Condition 1.c. – Outfall 003. The added modified Condition 1.c. shall read as follows:

c. Treated Effluent - Outfall 003 (May 1st through October 31st) (See Note 5)

| Item or Parameter | Minimum Frequency | Type of Sample |
|---|---|---|
| Temperature | Weekly | Measurement |

Note 5 – Sampling is required only during weeks when discharging from Outfall 003.

State of Oregon
Department of
Environmental
Quality

# National Pollutant Discharge Elimination System
## PERMIT EVALUATION AND FACT SHEET
**Draft**
**May 29, 2008**
## Oregon Department of Environmental Quality

Western Region
750 Front St NE, Suite 120
Salem OR 97301
(503) 378-8240

| | |
|---|---|
| **Permittee:** | Pacific Wood Preserving of Oregon<br>PO Box 40<br>Sheridan OR 97378 |
| **Permit Information:** | File Number: 87487<br>NPDES Permit Number: 101267<br>Issue Date: December 29, 2004<br>EPA Reference Number: OR002972-6 |
| **Source Contact:** | Sheldon Stewart (503) 843-2122<br>Plant Manager |
| **Source Location:** | 22125 Rock Creek Road<br>Sheridan, OR 97378 |
| **Receiving Stream** | South Yamhill River – RM 38.9 |
| **Proposed Action:** | NPDES Minor Industrial Permit Modification<br>Application Number: 973044<br>Date Received: May 29, 2008 |
| **Permit Writer:** | April Graybill (503) 378-6967<br>Water Quality Permitting Specialist |

## INTRODUCTION

Pacific Wood Preserving of Oregon owns and operates a pressure-treated wood facility approximately one mile west of Sheridan, Oregon near the South Yamhill River on Rock Creek Road. The facility occupies approximately 34 acres, with wood treating operations confined to the central area of the site and the remainder used for raw lumber and finished product storage. The facility discharges treated wastewater through Outfall 003 and stormwater through Outfall 005 into the South Yamhill River at River Mile 38.9 and Rock Creek at River Mile 0.1, respectively, in accordance with National Pollutant Discharge Elimination System (NPDES) permit number 101267. The permit for the facility was issued on December 29, 2004 and will expire on November 30, 2009.

The Department received a request for modification on May 29, 2008. The permittee has requested a modification to the face page of the permit to allow cooling tower blowdown as an allowed wastewater type. The Department proposes to modify the permit to allow discharge of this wastewater. In order to ensure there is no reasonable potential for the facility's discharge to cause or contribute to a water quality standard violation, the Department proposes to add effluent temperature monitoring to Schedule B of the permit.

This permit evaluation report describes the basis and methodology used in developing the permit modification.

## PERMIT CHANGES

**Face Page Wastewater Type**

The permittee has requested that "cooling tower blowdown" be added to the type of wastewaters allowed in the facility's NPDES permit. On the basis that the company has made facility improvements by removing an outdated cooling pond and installed a cooling tower, the permit should be changed to add "cooling tower blowdown" to the type of wastewater allowed in the permitted discharge. The primary source of the facility's effluent is storm water, which is typically cold and is not warmed during treatment.

**Temperature Monitoring**

On May 12, 2008, staff from the Department of Environmental Quality (Department) made a site visit to the Pacific Wood Preserving of Oregon facility to consider the addition of cooling tower blowdown to the plant discharge. The feedwater that enters the cooling tower and cooling tower internal structure flow were measured for temperature. The feedwater was measured to be 53.5°F and the internal structure flow was measured to be 43.5°F. The planned addition of the cooling tower blowdown water to the facility's effluent discharge cannot violate the basin's temperature standard.

Water temperature affects the biological cycles of aquatic species and is a critical factor in maintaining and restoring healthy salmonid populations throughout the state. It is the policy of the Environmental Quality Commission (EQC) to protect aquatic ecosystems from adverse temperature changes caused by anthropogenic activities. The purpose of

the temperature criteria listed in OAR 340-041-0028 is to protect designated beneficial uses that are temperature sensitive, including salmonids in waters of the State.

The Department utilizes Fish Use Designation and Salmon and Steelhead Spawning Use Designations maps to identify applicable temperature criteria for each basin. The Willamette Basin maps are contained in OAR 340-041, Figures 340A and 340B, respectively. According to the approved use designation maps, salmon and trout rearing and migration is a designated use of the South Yamhill River year-round. During this period, the applicable numeric temperature criterion is 18°C. This section of the South Yamhill is not designated for spawning use.

The Department's List of Water Quality Limited Water Bodies (also called the 303(d) List) indicates much of the Willamette Basin is water quality limited for temperature from April 1 through October 31 (during both the spawning period and rearing periods). The South Yamhill River (River Miles 18.1 - 42.6) is listed for temperature for salmonid fish rearing (17.8°C) in the summer.

It is necessary to analyze whether the discharge would cause or contribute to violations of the basin's temperature standard or not. The facility intermittently discharges from October through March because the discharge is dependent on rainfall. Since the facility is not generally discharging during the months the South Yamhill is limited for temperature, it is most likely that the discharge would not contribute to violations of the basin's temperature standard. During the May 12, 2008, Department visit to the facility, the cooling tower blowdown was measured to be less than 12°C and the facility was not discharging at the time. During periods when there is a discharge, the blowdown water should be even cooler. During periods that the blowdown water is warmer, there would be no discharge at this time. At all times, the blowdown water will be diluted and mixed with other wastewaters before discharge.

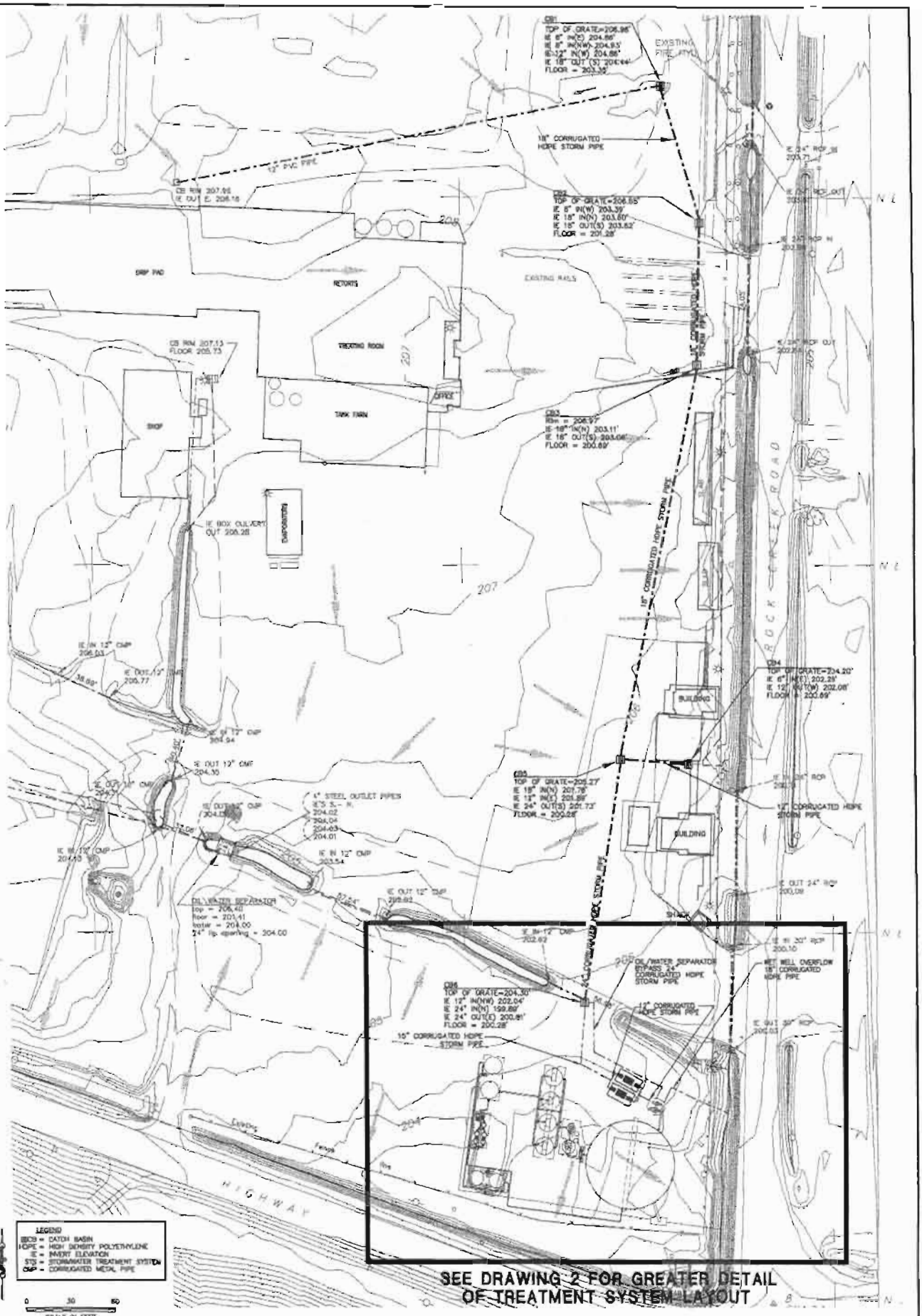
In order to ensure there is no reasonable potential for the facility's discharge to cause or contribute to a water quality standard violation, temperature monitoring of the effluent was added to Schedule B of the permit. A new note was also added to Schedule B pertaining to the frequency of sampling for the newly added monitoring parameter. The new note 5 states that, "Sampling is required only during weeks when discharging from Outfall 003."

All other permit monitoring in the current permit shall remain the same except for that noted in this permit modification.

# Appendix B

# Draft Storm Water Treatment System Operations and Maintenance Manual Drawings

## Storm Water Treatment System Operations and Maintenance Plan
## PWPO Sheridan, OR. Facility




| REV | DATE | DESCRIPTION | DRN BY | DES BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| 4 | 8/00 | O & M MANUAL | JLH | SPT | SPT | SPT |
| 3 | 5/00 | PHASE 2 | JLH | AMC | SPT | SPT |
| 2 | 8/99 | | JLH | AMC | SPT | SPT |
| 1 | 12/98 | CONVEYANCE ELEV. CHANGE | JLH | AMC | SPT | SPT |
| 0 | 5/98 | PRELIMINARY PLAN | JLH | AMC | SPT | SPT |

DATE OF ISSUE 5/98 — DRN BY JLH — CHK BY S. TAYLOR
SCALE 1" = 30' — DES BY A. DUARY — APP BY S. TAYLOR

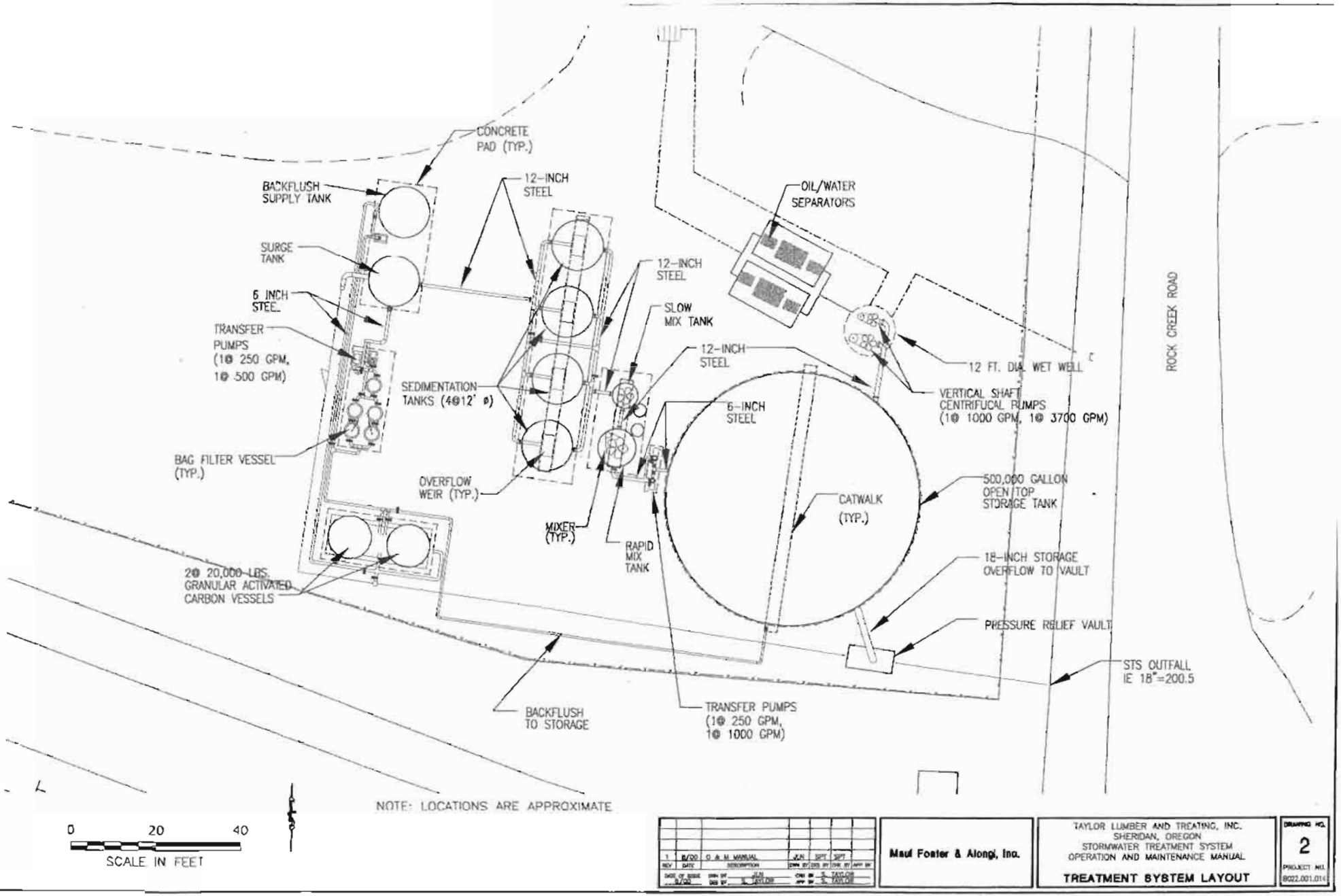
Maul Foster & Alongi, Inc.

TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL

**CONVEYANCE PIPING**

DRAWING NO. 1

PROJECT NO. 8002.001.014




| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| 1 | 8/00 | O & M MANUAL | JLN | SPT | SPT | |

DATE OF ISSUE 8/00 — DWN BY JLN — DES BY S. TAYLOR — CHK BY S. TAYLOR — APP BY S. TAYLOR

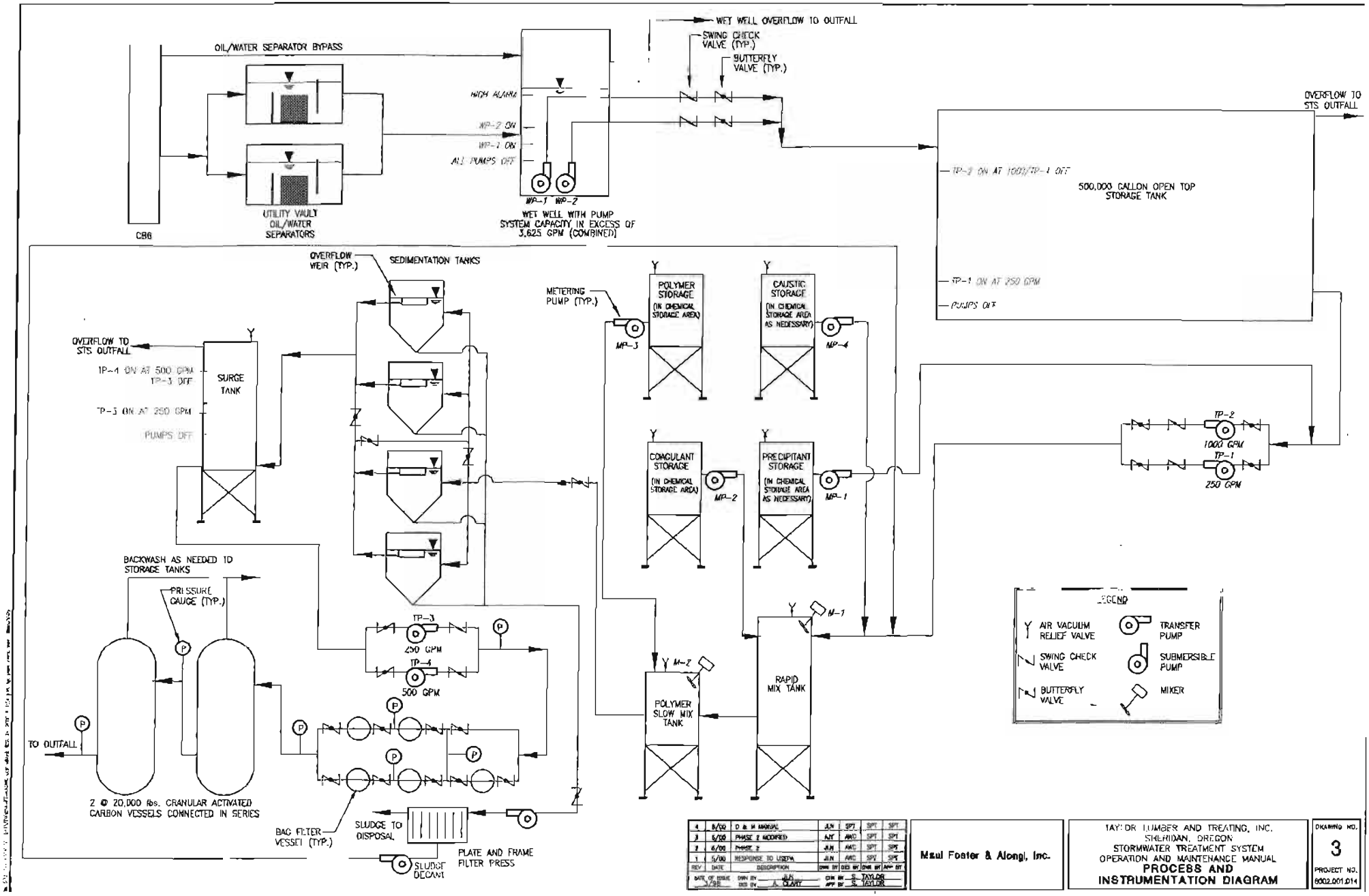
Maul Foster & Alongi, Inc.

TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL

**TREATMENT SYSTEM LAYOUT**

DRAWING NO. 2

PROJECT NO. 9022.001.014




| REV | DATE | DESCRIPTION | DWN BY | DES BY | CHK BY | APP BY |
|---|---|---|---|---|---|---|
| 4 | 8/00 | O & M MANUAL | JLN | SPT | SPT | SPT |
| 3 | 6/00 | PHASE 2 MODIFIED | JLN | AMC | SPT | SPT |
| 2 | 6/00 | PHASE 2 | JLN | AMC | SPT | SPT |
| 1 | 5/00 | RESPONSE TO USEPA | JLN | AMC | SPT | SPT |

DATE OF ISSUE 5/98 — DWN BY JLN — DES BY J. CLARY — CHK BY S. TAYLOR — APP BY S. TAYLOR

Maul Foster & Alongi, Inc.

TAYLOR LUMBER AND TREATING, INC.
SHERIDAN, OREGON
STORMWATER TREATMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL

**PROCESS AND INSTRUMENTATION DIAGRAM**

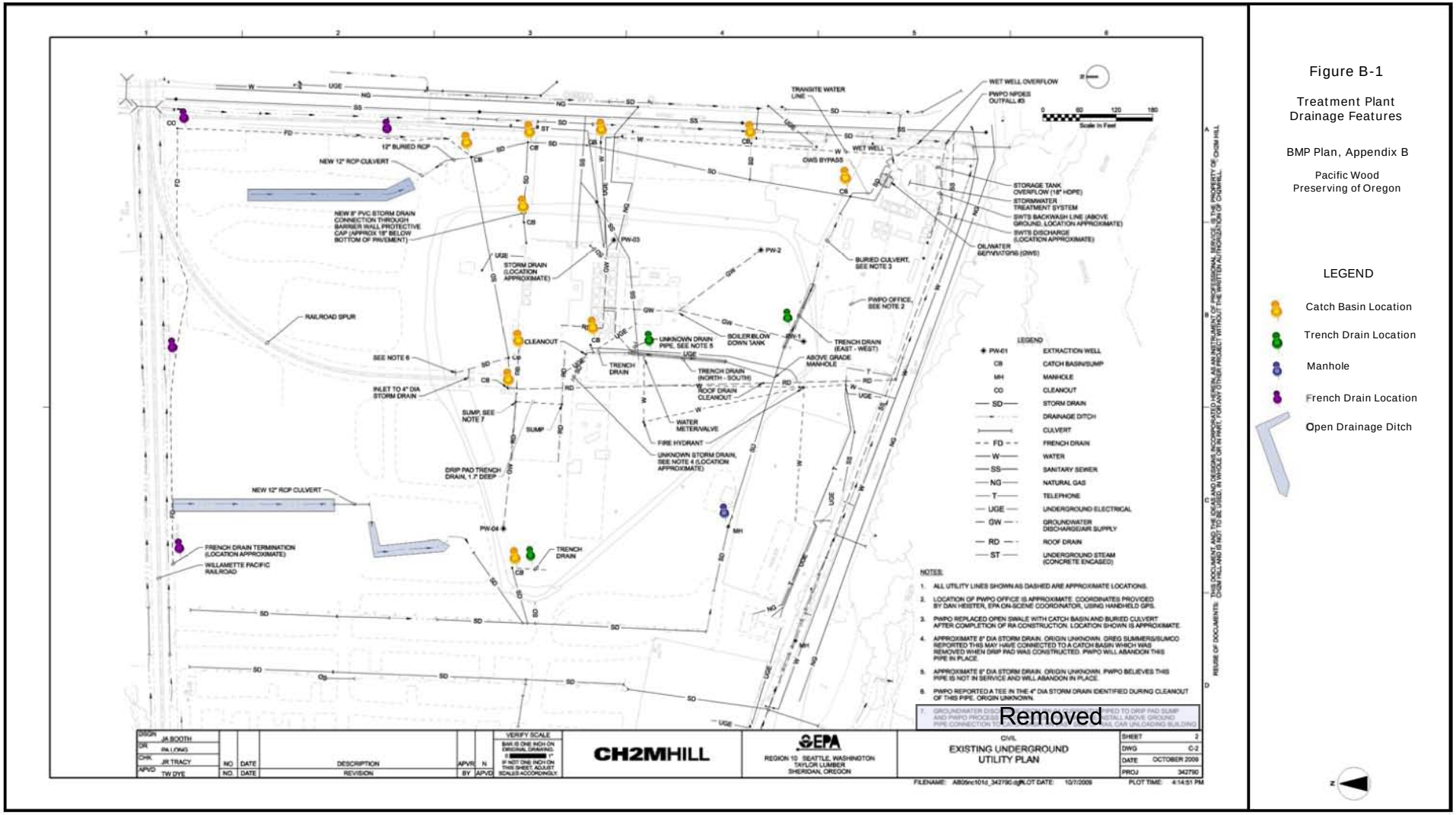
DRAWING NO. 3

PROJECT NO. 0002.001.014

# Appendix C

# Taylor Lumber and Treating Superfund Site Operations and Maintenance Plan “Existing Underground Utility Plan” Figure

Storm Water Treatment System Operations and Maintenance Plan
PWPO Sheridan, OR. Facility




Revised 12/27/2011

Note 7 removed and replaced by 11/10/2011 letter to Karen Keeley, attached.

BELUNES CONSULTING, INC.
Integrating environmental strategies with business solutions.

November 10, 2011

Ms. Karen Keeley, Project Manager
EPA Region 10
1200 Sixth Avenue, Suite 900
ECL-111
Seattle, WA 98101

RE: Extraction Well #4 Connection to SWTS

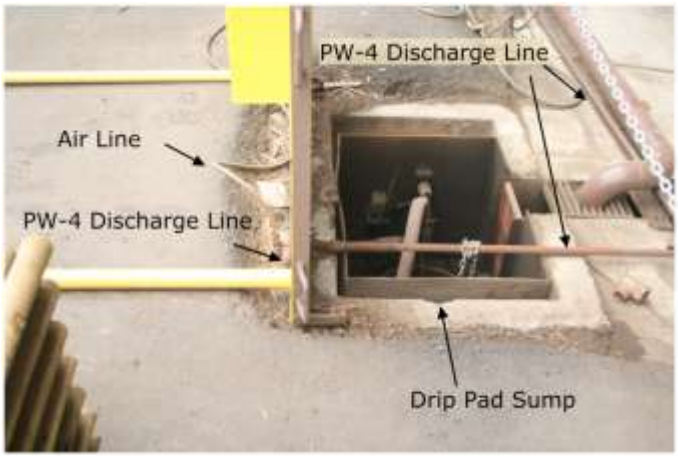
Dear Ms. Keeley:

In September 2011, you requested clarification that extraction well #4 (PW-4) had been reconnected to the Storm Water Treatment System (SWTS). The reconnection of PW-4 to the SWTS is noted on the October 2009 as-built drawing of the Existing Underground Utilities for the site (Note 7, Attachment A) as Pacific Wood Preserving of Oregon's (PWPO) responsibility. This letter summarizes the actions taken by PWPO and presents photographs (March and October, 2011) showing the connection of PW-4 to the SWTS.

PW-4 was originally connected to the catch basin located immediately west of the Rail Car Shed, which routes storm water to the SWTS for treatment prior to discharge via Outfall #3. The connection was made by routing the PW-4 discharge line underground to the sump on the north side of the drip pad. At this point the discharge line was routed above ground to the catch basin near the Rail Car Shed. The Rail Car Shed, the catch basin and the drip pad sump are shown on Attachment A.

During construction of the MatCon cap (also in2008), the portion of the discharge line that was routed above ground from the sump to the catch basin was disconnected to facilitate placement of the MatCon cap on the west side of the Rail Car Shed. At this time, the discharge line was connected to the north drip pad sump. The portion of the discharge line previously buried under the interim cap was also covered by the MatCon Cap. In 2010, the discharge line was disconnected from the sump and reconnected to the catch basin west of the Rail Car Shed.

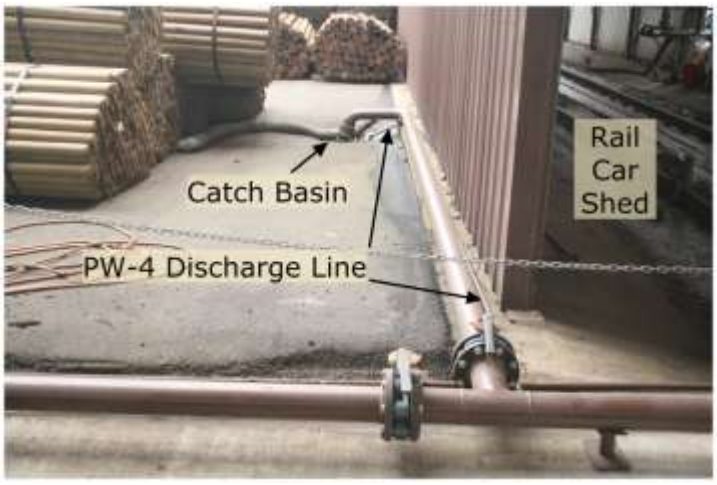
Photograph 1, below, shows the PW-4 discharge line emerging from the MatCon cap adjacent to the north drip pad sump. The PW-4 air-line is also shown. The photograph is looking east, towards the Rail Car Shed.




As can be seen on Photograph 1, the discharge line is not connected to the sump. The PW-4 discharge line crosses over the top of the sump and is routed eastward towards the Rail Car Shed.


Photograph 2

Photograph 2 was taken from the southwest corner of the Rail Car Shed looking westward. It shows the discharge line routed to the east, and parallel to the drip pads, to the southwest corner of the Rail Car Shed. In Photograph 1, the discharge line can also be seen parallel to the drip pads. At the Rail Car Shed, the discharge line is routed to the north, parallel to the shed, to the catch basin where it discharges to the SWTS (Photograph 3).




Photograph 3

This information confirms the reconnection of the extraction well PW-4 to the SWTS via the catch basin adjacent to the west side of the Rail Car Shed.

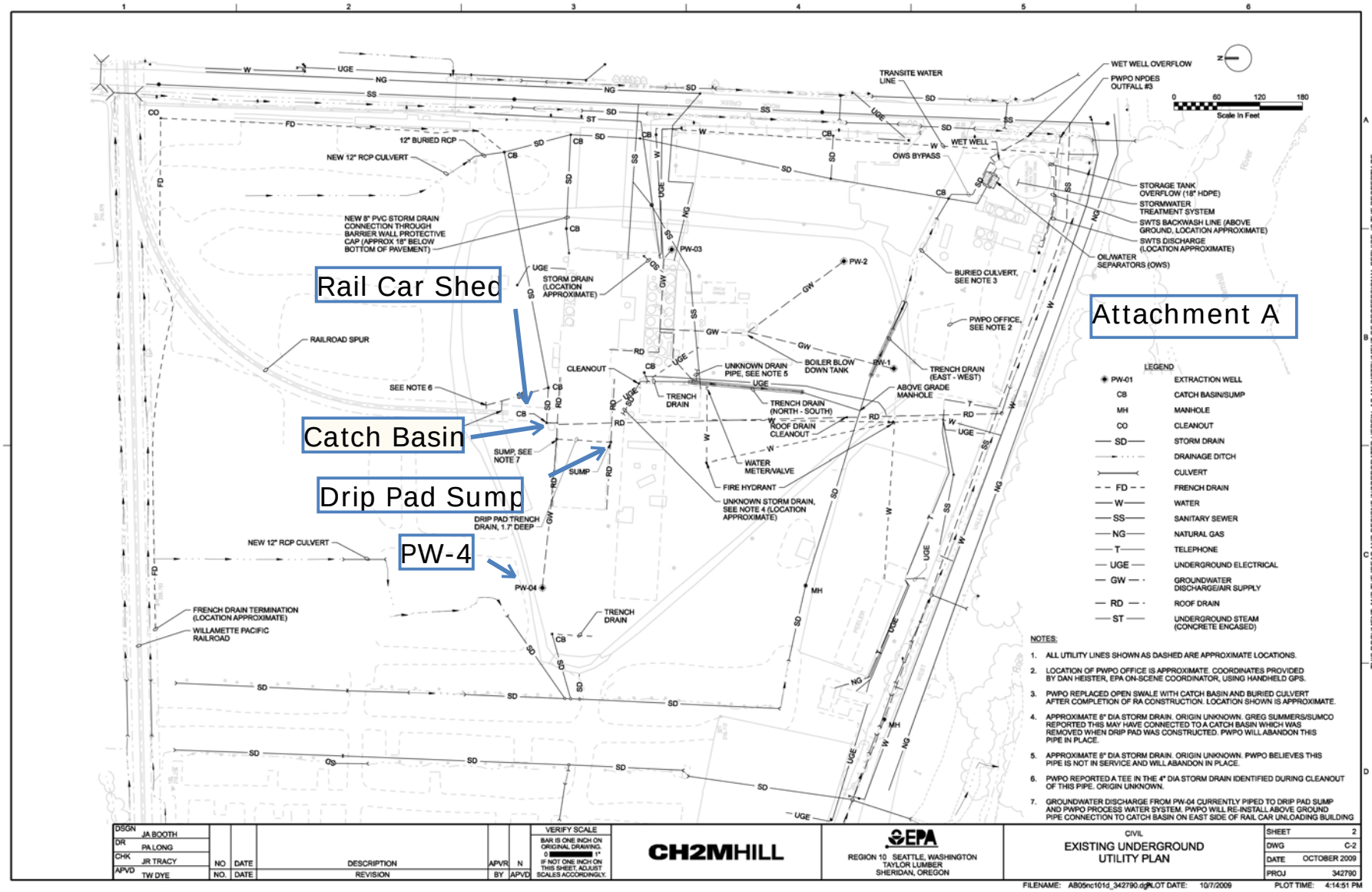
Note 7 on the as-built drawing of the existing utilities as presented in Appendix C of the draft Storm Water Treatment System Operations and Maintenance Plan (SWTS OMP, BCI September 2011) indicates that the discharge line for PW-4 has not been reconnected. We propose modifying the as-built drawing by removing Note 7 and/or otherwise noting that the change has occurred, and also including this letter in Appendix C to document the reconnection of the PW-4 discharge line to the SWTS and current site conditions at the time the SWTS OMP was prepared.

Sincerely,

Terrence E. Belunes
President BCI

Cc: Elaina Jackson
Roland Mueller
Terry Petko
Tom Lindley
Polly Hampton

Attachment A


Rail Car Shed
Catch Basin
Drip Pad Sump
PW-4
Attachment A
12" BURIED RCP
NEW 12" RCP CULVERT
NEW 8" PVC STORM DRAIN CONNECTION THROUGH BARRIER WALL PROTECTIVE CAP (APPROX 18" BELOW BOTTOM OF PAVEMENT)
STORM DRAIN (LOCATION APPROXIMATE)
RAILROAD SPUR
SEE NOTE 6
CLEANOUT
SUMP, SEE NOTE 7
SUMP
DRIP PAD TRENCH DRAIN, 1.7' DEEP
NEW 12" RCP CULVERT
FRENCH DRAIN TERMINATION (LOCATION APPROXIMATE)
WILLAMETTE PACIFIC RAILROAD
TRANSITE WATER LINE
WET WELL OVERFLOW
PWPO NPDES OUTFALL #3
WET WELL
OWS BYPASS
STORAGE TANK OVERFLOW (18" HDPE)
STORMWATER TREATMENT SYSTEM
SWTS BACKWASH LINE (ABOVE GROUND, LOCATION APPROXIMATE)
SWTS DISCHARGE (LOCATION APPROXIMATE)
OIL/WATER SEPARATORS (OWS)
BURIED CULVERT, SEE NOTE 3
PWPO OFFICE, SEE NOTE 2
UNKNOWN DRAIN PIPE, SEE NOTE 5
BOILER BLOW DOWN TANK
TRENCH DRAIN (EAST - WEST)
TRENCH DRAIN
TRENCH DRAIN (NORTH - SOUTH)
ABOVE GRADE MANHOLE
ROOF DRAIN CLEANOUT
WATER METER/VALVE
FIRE HYDRANT
UNKNOWN STORM DRAIN, SEE NOTE 4 (LOCATION APPROXIMATE)
PW-01
PW-02
PW-03
PW-04
PW-1
Scale in Feet
0 60 120 180
LEGEND
PW-01 EXTRACTION WELL
CB CATCH BASIN/SUMP
MH MANHOLE
CO CLEANOUT
SD STORM DRAIN
DRAINAGE DITCH
CULVERT
FD FRENCH DRAIN
W WATER
SS SANITARY SEWER
NG NATURAL GAS
T TELEPHONE
UGE UNDERGROUND ELECTRICAL
GW GROUNDWATER DISCHARGE/AIR SUPPLY
RD ROOF DRAIN
ST UNDERGROUND STEAM (CONCRETE ENCASED)
NOTES:
1. ALL UTILITY LINES SHOWN AS DASHED ARE APPROXIMATE LOCATIONS.
2. LOCATION OF PWPO OFFICE IS APPROXIMATE. COORDINATES PROVIDED BY DAN HEISTER, EPA ON-SCENE COORDINATOR, USING HANDHELD GPS.
3. PWPO REPLACED OPEN SWALE WITH CATCH BASIN AND BURIED CULVERT AFTER COMPLETION OF RA CONSTRUCTION. LOCATION SHOWN IS APPROXIMATE.
4. APPROXIMATE 6" DIA STORM DRAIN. ORIGIN UNKNOWN. GREG SUMMERS/SUMCO REPORTED THIS MAY HAVE CONNECTED TO A CATCH BASIN WHICH WAS REMOVED WHEN DRIP PAD WAS CONSTRUCTED. PWPO WILL ABANDON THIS PIPE IN PLACE.
5. APPROXIMATE 6" DIA STORM DRAIN. ORIGIN UNKNOWN. PWPO BELIEVES THIS PIPE IS NOT IN SERVICE AND WILL ABANDON IN PLACE.
6. PWPO REPORTED A TEE IN THE 4" DIA STORM DRAIN IDENTIFIED DURING CLEANOUT OF THIS PIPE. ORIGIN UNKNOWN.
7. GROUNDWATER DISCHARGE FROM PW-04 CURRENTLY PIPED TO DRIP PAD SUMP AND PWPO PROCESS WATER SYSTEM. PWPO WILL RE-INSTALL ABOVE GROUND PIPE CONNECTION TO CATCH BASIN ON EAST SIDE OF RAIL CAR UNLOADING BUILDING
REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CH2M HILL. CH2M HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CH2M HILL
DSGN JA BOOTH
DR PA LONG
CHK JR TRACY
APVD TW DYE
NO. DATE DESCRIPTION REVISION APVR BY N APVD
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
CH2MHILL
EPA
REGION 10 SEATTLE, WASHINGTON
TAYLOR LUMBER
SHERIDAN, OREGON
CIVIL
EXISTING UNDERGROUND UTILITY PLAN
SHEET 2
DWG C-2
DATE OCTOBER 2009
PROJ 342790
FILENAME: AB05nc101d_342790.dgn PLOT DATE: 10/7/2009 PLOT TIME: 4:14:51 PM

# Appendix D

# Definitions

## Storm Water Treatment System Operations and Maintenance Plan
## PWPO Sheridan, OR. Facility

Appendix D
SWTS Inspection Criteria
SWTS O&M Plan

| | |
|---|---|
| Annual Inspection | Inspection of the SWTS conducted during the dry season, usually before August 30, to evaluate the need for preventative maintenance |
| Cleanliness | Refers to the degree of solids/sediment accumulation. A component is clean if the amount of solids is less than 1/3 of the volume of the component (e.g., a catch basin) and solids/sediment do not block or restrict system through the system. |
| Dry Season | July 1 through October 31 |
| Flow | Term used to evaluate whether water is moving freely through the component. A component is considered to have normal flow when water can enter and pass through freely. A component has poor flow when water cannot enter the component, water bypasses the component, water accumulates or pools in the component or when the flow of water is block inside the component. |
| Heavy Storm Event | Greater than one inch of precipitation in 24 hours |
| Improper Runoff | Refers to uncontrolled runoff that is not captured by the storm water conveyance system. Storm water run-off from the Treated Wood Storm Yard to the perimeter ditch along Rock Creek would be considered an example of improper runoff. |
| Leakage | Means that a SWTS component is leaking water. |
| Proper Operations | Refers to whether a SWTS component is operating as intended. Examples include, water flowing through a drain, ditch (not pooling), catch basins or valve; grates retaining oversized debris; pumps working at the intended flow rate, floats trigging the desired result, etc. |
| Rainy Season | November 1 through June 30 |
| Routine Maintenance | Maintenance of a storm water component that is anticipated and/or planned for on a regular basis |
| Scheduled Maintenance | Maintenance of a storm water component that is schedule to occur on a regular basis |
| Visible Contamination | Refers to the visual evidence of petroleum hydrocarbons, such as a sheen or free phase oil on water or stained of soil/sediments. |

# Appendix E

# Annual Inspection Checklists

## Storm Water Treatment System Operations and Maintenance Plan
## PWPO Sheridan, OR. Facility

Storm Water Treatment System Annual Inspection Checklist
CONVEYANCE SYSTEM
Pacific Wood Preserving Of Oregon

Year: _____

| SWTS Component | Date Completed | Condition of Component (describe deterioration, obstruction, debris, depth of sediments etc.) | Comments |
|---|---|---|---|
| **French Drain** | | | |
| Proper Operation | | | |
| Flow at Clean Out | | | |
| Flow at Catch Basin 1 | | | |
| **Catch Basins** | | | |
| Proper Operation | | | |
| Cleaned Out | | | |
| Debris, Obstruction | | | |
| Sediments | | | |
| **Trench Drains** | | | |
| Proper Operation | | | |
| Cleaned Out | | | |
| Debris, Obstruction | | | |
| Sediments | | | |
| **Manhole** | | | |
| Debris, Obstruction | | | |
| Sediments | | | |
| Cleaned Out | | | |
| **Inspected By:** | | | |

Manager's signiture and date: _____

Storm Water Treatment System Annual Inspection Checklist
TANKS
Pacific Wood Preserving Of Oregon

Year: _____

| SWTS Component | Date Completed | Depth of Sediment | Condition of Tank (describe corrosion, deterioration, odor, etc.) | Comments |
|---|---|---|---|---|
| **Oil Water Separator** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Rapid Mix Tank** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Slow Mix Tank** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Sedimentation Tank 1** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Sedimentation Tank 2** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Sedimentation Tank 3** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Sedimentation Tank 4** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Sedimentation Tank 4** | | | | |
| Inspect for Wear and Tear | | | | |

Continued on next page.

Storm Water Treatment System Annual Inspection Checklist
TANKS
Pacific Wood Preserving Of Oregon

| SWTS Component | Date Completed | Depth of Sediment | Condition of Tank (describe corrosion, deterioration, odor, etc.) | Comments |
|---|---|---|---|---|
| **Surge Tank** | | | | |
| Inspection | | | | |
| **Backwash Tank** | | | | |
| Inspection | | | | |
| **50 Micron Filter Bag Vessel** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **25 Micron Filter Bag Vessel #1** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **25 Micron Filter Bag Vessel #2** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **10 Micron Filter Bag Vessel #1** | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **10 Micron Filter Bag Vessel #2** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **GAC Vessel 1** | | | | |
| GAC Change Out Date | | | | |
| Inspection | | | | |
| **GAC Vessel 2** | | | | |
| GAC Change Out Date | | | | |
| Inspection | | | | |
| **Inspected By:** | | | | |

Continued on next page.

Storm Water Treatment System Annual Inspection Checklist

TANKS

Pacific Wood Preserving Of Oregon

Notes:

Manager's signiture and date: _____

Storm Water Treatment System Annual Inspection Checklist
500,000 GALLON STORAGE TANK
Pacific Wood Preserving Of Oregon

Year: _____

| SWTS Component | Date Completed | Depth of Sediment | Condition of Tank (describe corrosion, deterioation, odor, funcationality etc.) | Comments |
|---|---|---|---|---|
| **Tank Foundation** | | | | |
| Foundation Cracks | | | | |
| Voids under Concrete | | | | |
| **Tank Shell** | | | | |
| Seam Distrotion | | | | |
| Cracks in Shell | | | | |
| Leaks from Seams/Cracks | | | | |
| Corrosion of Shell | | | | |
| Bolt Tightness | | | | |
| **Fittings** | | | | |
| Leakage | | | | |
| **External Guage** | | | | |
| Moves Freely | | | | |
| Cleanleness | | | | |
| Sheave Roller Operation | | | | |
| Float Cable Wear | | | | |
| **Ladder** | | | | |
| Tightness of bolts | | | | |
| **Storage Tank** | | | | |
| Depth of Sediment | | | | |
| Cleaned Out | | | | |
| Inspection | | | | |
| **Inspected By:** | | | | |

Manager's signiture and date: _____

Storm Water Treatment System Annual Inspection Checklist
PUMPS
Pacific Wood Preserving Of Oregon

Year: _____

| SWTS Component | Date Completed | Condition of Pumps (describe corrosion, deterioation, leaks, etc.) | Comments |
|---|---|---|---|
| **Wet Well Pumps** | | | |
| Inspect and Replace Bearing | | | |
| Inspect and Service Impellers | | | |
| **Transfer Pump T-1** | | | |
| Inspect and Replace Bearing | | | |
| Inspect and Service Impellers | | | |
| **Transfer Pump T-2** | | | |
| Inspect and Replace Bearing | | | |
| Inspect and Service Impellers | | | |
| Grease bearings, as needed | | | |
| **Transfer Pump T-3** | | | |
| Inspect and Replace Bearing | | | |
| Inspect and Service Impellers | | | |
| **Transfer Pump T-4** | | | |
| Inspect and Replace Bearing | | | |
| Inspect and Service Impellers | | | |
| Grease bearings, as needed | | | |
| **Mixer 1** | | | |
| Change Oil | | | |
| **Mixer 2** | | | |
| Change Oil | | | |
| **Inspected By:** | | | |

Note: Inspecting and replacing bearing and inspecting and servicing impeller to be done as needed.

Manager's signiture and date: _____